The Journal of the American Medical Association

Published under the Auspices of the Board of Trustees.

VOL. XXXIX. CHICAGO, ILLINOIS, OCTOBER 25, 1902. No. 17.

Original Articles.

UNDER WHAT CIRCUMSTANCES IS IT ADVISABLE TO REMOVE THE VERMIFORM APPENDIX WHEN THE ABDOMEN IS OPENED FOR OTHER REASONS?

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BALTIMORE.

The importance of the vermiform appendix as a possible cause of complication in gynecologic pelvic surgery was suddenly and sharply brought to my attention some time since by the case of a patient who came under my care in December, 1894, suffering from general pelvic discomfort and painful menstruation. I made a median abdominal incision and found the uterus retroflexed, the ovaries adherent and the vaginal outlet relaxed. The uterus was suspended, the varicose ovarian veins ligated and the vaginal outlet repaired. The patient was little if at all improved by my treatment, to our mutual disappointment. After leaving my care she went to live in Pennsylvania, and some months later I had a letter from her, informing me that she had had an attack of appendicitis, for which she had been operated on by my old friend Dr. John Deaver. The result of the operation was a complete relief of all her previous symptoms, making it evident that the appendix had been the real cause of her pain and discomfort. I received this information with a sincere pleasure, not unmixed with some sense of mortification, but like other hard knocks this one taught me a valuable lesson.

Since the receipt of her reproachful letter I have never opened the abdomen without examining the appendix, whenever it was possible to do so without enlarging the incision or running the risk of conveying infection to clean structures. I have also ever since made a point of noting the condition of the appendix when examined, especially as regards its length and its freedom or adherence, including these data among others which the anesthetizer is expected to fill out on a printed slip. My statistics show that in a series of 115 cases in which the condition of the appendix was noted at the operation, it was found adherent to the right tube or ovary in 10 cases, in 37 cases it was involved in adhesions, it was congested in 3 cases and obliterated at the cecal end in one case. Only 64 appendices were perfectly normal. In a series of 200 abdominal sections I have had occasion to remove the appendix 25 times.[1]

My interest in this subject has recently received a fresh stimulus from the fact that I am now preparing to publish a book on the appendix, and I have been under the necessity of closely considering the conditions requiring its removal in my chapter on operative treatment. I find myself, under these circumstances, frequently brought face to face with the following question: Is it advisable to remove the apparently normal appendix whenever the abdomen is opened for other reasons; or, in other words, whenever there is an incision anywhere in the right lower quadrant of the abdomen?

In discussing this question with various friends I have found that considerable diversity of opinion existed among them in regard to it, and while some were decided in their belief that the radical plan of removal should always be adopted, others were equally emphatic in decrying such a procedure as meddlesome surgery. My experience in the matter led me to think that if the views of a number of prominent professional men on the subject were known it might lead to a general consensus of opinion in regard to it. I wrote, therefore, to 80 well-known surgeons in different parts of the United States, asking for their opinions and requesting permission to publish their replies. To these 80 inquiries I have received 74 answers. The method of interrogation employed was that of sending to each individual a return postal card containing two categorical questions in the following form:

> Will you kindly write *yes* or *no*, after the two following queries:
>
> 1. When the abdomen is opened for other causes, and the perfectly normal appendix is easily accessible, is it your rule to remove it?
>
> 2. When the appendix is slightly adherent to neighboring structures, as peritoneum, ovarian or fibroid tumors, do you then remove it?
>
> (*Answer may be published.*)

The replies to these questions make it evident that no uniformity of opinion exists as to the propriety of removing an entirely normal appendix. One surgeon of ability and experience, for instance, replies to the first question, "Yes, always," while another whose opinion is no less entitled to consideration, answers, "No; it is unsurgical." This wide divergence of opinion is only another evidence that our knowledge of the appendix must undergo further evolution before any unanimity exists among surgeons as to its surgical treatment. Contributions to the study of the subject likely to further this end are at present valuable, and, therefore, I think that the different points of view which have been revealed in the course of my inquiry call for a more detailed discussion than would be possible or suitable in the brief space which is all that can be devoted to the subject in the work for which the information was originally intended.

It is only fair that I should call attention at the outset to the fact that the categorical form of my inquiry did not allow the surgeons to whom it was ad-

1. "The Exploration of the Abdomen as an Adjunct to Every Cellotomy," Med. News, Dec. 16, 1899.

dressed any opportunity to qualify their opinions, which some of them may have wished to do. Notwithstanding the conditions imposed, however, various restrictive clauses appear in their replies. Such qualified answers as "No; but I do sometimes," or "Yes, usually" have been treated as unqualified, since it is the rule which is expressly asked for and special cases are not the object of consideration. Qualifications such as "if the patient's condition permits" have also been set aside, because it is assumed that any serious contraindication nullifies the question. Some few qualified answers remain which can not be classified unreservedly as either affirmative or negative, and these are separately considered.

REMOVAL OF NORMAL APPENDIX.

The following is a tabulation of the answers received to the first question: "When the abdomen is opened for other causes and the perfectly normal appendix is easily accessible, is it your rule to remove it?"

SURGEONS ANSWERING "YES."

BAKER, W. H.
BOLDT, H. J.
BOVEE, J. W.
CARTLEDGE, A. M.
CLEVELAND, C.
DICKINSON, R. L.
DUDLEY, A. P.
EDEBOHLS, G. M.
FRY, H. D.
HARVIE, J. B.
HENROTIN, F.
HOUSTON, D. H.
JOHNSTON, G. B.
LYDSTON, G. F.
MANN, M. D.
MACDONALD, W. G.
MACMONAGLE, B.
MCBURNEY, C.
MCCOSH, A. J.
MCRAE, F. W.
MEYER, W.
PECK, G. S.
RICHARDSON, M.
SCHACHNER, A.
VAN LENNEP, W. B.
VINEBERG, H. M.

Total, 26.

SURGEONS ANSWERING "NO."

ABBE, R.
ALLEN, D. P.
BAGOT, W. S.
BECK, C.
BERNAYS, A. C.
BOISE, E.
BONIFIELD, C. J.
BURRAGE, W. L.
CABOT, A. T.
CARMALT, W. H.
CARPENTER, J. S.
CHADWICK, J. R.
CORDIER, A. H.
CURRIER, A. F.
CUSHING, E. W.
DAVENPORT, F. H.
DEAVER, J. B.
DOUGLAS, R.
DUDLEY, E. C.
EDGAR, J. C.
FINNEY, J. M. T.
GOELET, R. H.
GOFFE, J. R.
JOHNSON, J. T.
LAPLACE, E.
MARCY, H. O.
MARTIN, E.
MCMURTRY, L. S.
MONTGOMERY, E. E.
MURPHY, J. B.
NEWMAN, H. P.
NOBLE, C. P.
NOBLE, G. H.
NORRIS, R. C.
PALMER, C. D.
PARK, R.
PILCHER, L. S.
PRICE, J.
PRYOR, W. R.
REYNOLDS, E.
RODMAN, W. E.
SENN, N.
VAN HOOK, W.
VANDER VEER, A.

Total, 44.

The following are the qualified answers received:

J. G. CLARK.—I usually say to the patient that if I were in a similar position, I should have it removed. At least 50 per cent. request it under these circumstances.

H. C. COE.—No, not yet; but I am becoming converted to the practice.

A. F. JONAS.—Not always.

B. H. WELLS.—Yes, with the patient's consent, and when it does not increase risk.

REMOVAL OF THE SLIGHTLY ADHERENT APPENDIX.

Following are the answers to the second question: "When the appendix is slightly adherent to neighboring structures, peritoneum, ovarian or fibroid tumors, do you then remove it?"

SURGEONS ANSWERING "YES."

ABBE, R.
ALLEN, D. P.
BAKER, W. H.
BERNAYS, A. C.
BOLDT, W. J.
BOVEE, J. W.
BONIFIELD, C. J.
CABOT, A. T.
CARPENTER, J. S.
CARTLEDGE, A. M.
CHADWICK, J. R.
CLARK, J. G.
CLEVELAND, C.
COE, W. C.
CORDIER, A. H.
CUSHING, E. W.
DAVENPORT, F. H.
DEAVER, J. B.
DICKENSON, R. L.
DUDLEY, A. P.
EDEBOHLS, G. M.
EDGAR, J. C.
FINNEY, J. M. T.
FRY, H. D.
GOELET, A. H.
GOFFE, J. R.
HARVIE, J. B.
HENROTIN, F.
HOUSTON, D. H.
JOHNSTON, G. B.
JONAS, A. F.
LAPLACE, E.
LYDSTON, G. F.
MANN, M. D.
MARCY, H. O.
MARTIN, E.
MACDONALD, W. G.
MACMONAGLE, B.
MCBURNEY, C.
MCCOSH, A. J.
MCMURTRY, L. S.
MCRAE, F. W.
MEYER, W.
MURPHY, J. B.
NEWMAN, H. P.
NOBLE, C. P.

Total, 60.

PALMER, C. D.
PARK, R.
PECK, G. S.
PILCHER, L. S.
PRICE, J.
REYNOLDS, E.
RICHARDSON, M.
RODMAN, W. L.
SCHACHNER, A.
SENN, N.
VAN LENNEP, W. B.
VANDER VEER, A.
VINEBERG, H. N.
WELLS, A. M.

SURGEONS ANSWERING "NO."

BAGOT, W. S.
BOISE, E.
BURRAGE, W. L.
CARMALT, W. H.

Total, 7.

CURRIER, R. F.
NOBLE, G. H.
PRYOR, W. K.

The following qualified answers to this question were received:

C. BECK.—Preferably, yes; but not unconditionally.

R. DOUGLAS.—Yes, if adherent to normal structures; no, if only slightly adherent to neoplasms.

E. C. DUDLEY.—So many considerations pertain here, that the question should not be answered yes or no.

J. T. JOHNSON.—I do, if it is diseased, or injured by the separation of adhesions.

E. E. MONTGOMERY.—Not unless conditions are such as to lead me to fear that it will be involved in subsequent adhesions.

R. C. NORRIS.—Not always.

W. VAN HOOK.—I would remove the appendix:

1. When its removal would facilitate the remainder of the operation.
2. When the integrity of its blood supply is interfered with.
3. When the appendix itself is diseased.

We have here 44 unqualified negatives to the first question against 26 affirmatives; and 60 unrestricted affirmatives to the second question against 7 negatives. Therefore, these results show a large majority against the removal of the normal appendix simply because the opportunity arises to do so; and an overwhelming majority in favor of the removal of the appendix when it deviates in the slightest degree from normal.

My own opinion coincides in both cases with that of the majority. I never remove the appendix in the course of an operation for other causes when it proves entirely normal on examination, but I always remove it if it is even slightly adherent to other organs. I also remove it invariably when it is free if its length exceeds normal. My reasons for not removing the normal appendix are as follows:

1. Its removal involves a slight additional risk, owing to the fact that no matter how good the patient's condition may be at the time the appendix is removed, there is no guarantee that it will remain so until the end of the operation, and should a condition of shock ensue the additional five minutes consumed in the removal of the appendix will lessen the chances of recovery.

2. We are not yet in a position to estimate the importance of removing the normal appendix as a prophylactic measure, for statistics have not yet shown that there is a definite *per mille* risk, either of death or of serious disease, in retaining the organ.

3. The fact that the appendix has no known function does not prove that it is a functionless organ, although we are in the habit of calling it so; and it is possible that an improved knowledge concerning it may in the future demonstrate some reason for its preservation. It is only a few years since the ovaries were supposed to have no use or purpose except that of reproduction, and their extirpation, apart from the interference with their primary function, was a matter of no importance. Now, however, when their relation to the process of internal secretion is beginning to be under-

stood, we find ourselves responsible for their preservation from entirely different reasons.

The arguments of those who believe in removing the normal appendix whenever possible are so well stated by Dr. Maurice Richardson in a letter accompanying his formal reply to my questions that I can not do better than quote his words:

The questions on your postal card with reference to appendectomy require, in my opinion, more than "yes" and "no" answers. The first question, to which I replied "yes," was, in substance, whether, in the course of abdominal operations, I remove the normal appendix. I should not take the five minutes necessary for this operation if the patient's condition were not excellent. I should not remove the appendix in hopeless disease of other viscera. I should not make a second incision to remove it, were it not entirely accessible through the first. I do not think that removal of the accessible normal appendix—or, for that matter, the abnormal non-adherent appendix, with healthy base and healthy cecum—I do not think, I say, that removal of such an appendix adds materially to the shock. I have removed consecutively five hundred appendices, more or less diseased, from patients in good general condition without mortality. Some of the operations have been exceedingly severe, and very extensive, but all the patients have recovered. Some cases have required resection and suture of the cecum; some dissections a foot long; but the results have been invariably favorable. Acute appendicitis in its fulminating form is such a dreadful disease—having always from its very nature a fearful mortality, no matter who operates, or how, that I am unequivocally in favor not only of seeking the appendix in every suspected case, but of removing the normal appendix whenever it is exposed.

Dr. Richardson's views in regard to the second point at issue, the removal of the slightly adherent appendix, agree entirely with my own, and I again make use of them as a clear and forcible expression of the reasons for the course approved by the large majority of surgeons:

With reference to the second question, I would say that when there is the slightest evidence of the abnormal I deem it my duty to remove the appendix, even if the risk of the original operation is somewhat increased; provided, always, that the patient has no bar to operation in general condition, in age, in hopeless lesions of other viscera, in lesions of other viscera which may temporarily contraindicate operation, or in lesions of other viscera which will in a few years fatally compromise life. If, for any other reason, the patient has a short expectancy of life I do not remove the appendix in these cases. Any of these reasons would, of course, contraindicate the removal of a healthy appendix.

There remain two points relating to the subject under discussion which ought not to pass unnoticed.

Dr. Robert Abbe is of the opinion that the perfectly normal appendix never contains fecal concretions. They are frequently present, however, in appendices which are entirely normal in appearance, and I have found them myself in such appendices in a number of instances. Therefore, any appendix in which concretions can be felt should be removed, even though it is to all appearance entirely healthy.

The question is occasionally raised whether the appendix ought not always to be removed when operations are performed in the neighborhood of the cecum which might give rise to post-operative adhesions. In the case of men such risk is inconsiderable, but with women there is a possibility that the appendix may become adherent to the fresh wound in operations on the uterus or the right ovary. Five cases of this kind, two of which were my own patients, have come under my observation. They are cited in the section on operation in my forthcoming book. It is sufficient to say here that in one of my cases the appendix became adherent to the stump of the right ovary, and was subsequently removed by the late Dr. Hunter McGuire; and in the other, where the appendix was adherent to the wound in the uterus, caused by a myomectomy, it was removed by Dr. Finney. The other three cases were all consequent on the removal of the right ovary, and the operation for the removal of the appendix was done by Dr. McGuire in one case and by myself in the other two. Two of these five cases have been reported by Dr. McGuire,[2] who makes, in connection with them, a suggestion of much practical importance, namely, that whenever the right ovary is removed the raw stump should be protected by covering it with peritoneum and burying it out of sight. There is no doubt that an appendix which hangs free from the end of the cecum and is long enough to reach the field of an adjacent operation is liable to become adherent and thus become the source of an attack of appendicitis. I therefore adopt the rule of removing long free appendices in all right-sided pelvic operations, but I would not remove a short appendix which is normal, nor one which is tucked up on either side of the cecum.

CONCLUSIONS.

In conclusion the following points should be emphasized:

1. The appendix should always be examined and its condition noted whenever the abdominal cavity is opened for any reason, provided no additional risk is involved.
2. The opinion of the majority of surgeons in this country is against the removal of a perfectly healthy appendix, 44 to 26 being the proportion shown in my investigation.
3. The opinion of the large majority of surgeons is in favor of removing an appendix which is even slightly adherent to other structures, 60 to 7 being the proportion shown in my investigation.
4. The fact that the appendix is normal in appearance does not prove that it contains no fecal concretions, for I have found them in a number of instances. Their presence is sufficient reason for the removal of an apparently healthy appendix.
5. After removal of the right ovary the stump should always be covered with peritoneum in order to prevent the risk of adhesion to the appendix. A long and free appendix should invariably be removed.

DRAINAGE OF EXTRAVESICAL AND EXTRA-PERITONEAL SUPPURATIONS OF THE MALE PELVIS.*

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ANATOMIC RELATIONS.

The anatomic part to be considered represents the space, or perhaps better, the line of union, bounded externally by the deep pelvic fascia which covers the inner contour of the pelvic cavity and internally by the peritoneum and by the fibrous sheath which envelops in common the bladder, the male sexual apparatus and the upper rectum. This sheath is really formed of deflections from the deep pelvic fascia which project upward from the points where the pelvic viscera make their exits from the pelvic cavity. It is evident, therefore, that the lower limits of this space are sharply defined, while

2. Trans. Med. Soc. Va., 1895.

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Surgery and Anatomy, and approved for publication by the Executive Committee: Drs. H. O. Walker, A. J. Ochsner and DeForest Willard.

there is really no definition to the upper limits, these latter being simply continuous with the line of union of the peritoneum and the abdominal fascia. In the upper anterior portion of this pelvic space and on the border line between it and the abdominal line of union just mentioned is the space of Retzius, the limits of which are the deep pelvic fascia in front, the bladder behind and the peritoneal deflection onto the bladder above. When the bladder is in a state of collapse the space of Retzius lies wholly in the cavity of the pelvis. With the distension of that organ it extends correspondingly into the abdominal cavity. A loose network of fibrous tissue fills this pelvic space, forming a slight connection between the opposing surfaces, but not sufficient, however, to limit the expansive and contractile qualities of the pelvic viscera. Aside from the loose fibrous tissue there is little of anatomic importance in this part except blood vessels, and in the study of suppurations special attention should be paid to the chief of these—the external iliac and the obturator vessels. It has been seen that the deep pelvic fascia sends deflections upward onto the pelvic viscera. The opposite condition, however, pertains in its relation to the blood vessels just mentioned, for at the points where they emerge from the pelvis, namely, under Scarpa's triangle and at the obturator foramen, the pelvic fascia instead of sending deflections upward sends them downward. As a consequence of this there is under Scarpa's triangle—and especially externally to the vessels—a pathway out of the pelvic space under consideration and one also alongside the obturator vessels. The latter point of exit is, however, so narrow that burrowing fluids rarely take that course. Above Poupart's ligament and just outside the limits of this pelvic space there is another similar path of exit along the vessels and structures lying in the inguinal canal. In the corresponding abdominal space the peritoneum is much more firmly and closely connected to the outlying fascia in front and laterally than behind.

RESULTS OF SUPPURATION.

Now, supposing suppuration occurs in the pelvic region under consideration and that it is not artificially liberated, what happens? It naturally burrows, extending in what in each individual case proves to be the direction of least resistance. In most instances where it starts very dependently it is apt to extend upward out of the pelvis posteriorly, mounting perhaps as high as the kidneys in the perinephritic space, or burrowing forward it may extend into the thigh along the space externally to the external iliac vessels beneath Scarpa's triangle. If this last point of exit in a given instance is not specially patulous and the anterior and upward burrowing continues, infiltration into the scrotum results. Exit along the obturator vessels is rare, owing to the great narrowness of the path. When it does occur the infiltration is into the thigh. Upward burrowing may take place into the space of Retzius and from there still further upward perhaps to the umbilicus, separating the peritoneum from its attachment to the transversalis fascia. When this occurs a hypogastric fusiform tumefaction results, which presents to abdominal inspection and examination many of the evidences of vesical overdistension. Sometimes upward burrowing does not take place in the median line but to one side, a deep brawny abdominal tumefaction presenting above and largely externally to Poupart's ligament, extending from there outward in the direction of the anterior superior spine of the ileum. A natural vent into the bladder or rectum may occur, the pus discharging itself with the normal bodily excretions. Many times, and in fact in the majority of instances, suppurations do not originate in or adjacent to this pelvic space but gravitate and burrow into it from above, their course being the corresponding abdominal extraperitoneal region.

ETIOLOGY.

In considering the causes for suppurations involving the part under discussion it is well to divide them into two general classes: 1, Those the source of which is the pelvic region, and 2, those that burrow into the pelvic space from the corresponding abdominal region. The great majority of cases of the first class originate from urinary extravasations. All extraperitoneal ruptures of the bladder, aside from those involving the apex of the organ, are followed by urinary extravasation into the pelvic region under consideration. Extravasations or suppurations involving the lymph space between the prostatic capsule and the rectum may break through the fibrous deflection from the deep pelvic fascia and so invade the space. Lacerations of the prostatic urethra and prostate, giving rise to extravasations and prostatic or seminal vesicular abscess caused by trauma, the streptococcus, the gonococcus, the tubercle bacillus or other infection, are the usual genito-urinary causes for suppuration into the recto-prostatic lymph space. Lacerations of the rectum and infections associated with that part are rectal causes. Besides these there is a rare class of suppurations which have been designated "idiopathic," a definition which practically signifies cause unknown. Most of these latter instances not really coming under the headings already mentioned probably originate from that part of the circulatory or lymphatic system which traverses the part. Infective thrombosis of the prostatic plexus, for instance, is not presumably of great rarity. Suppurative processes may break into the space through the deep pelvic fascia, these being the result of traumatisms, perforating wounds, gunshots, tubercle or other agency causing pelvic bone or tissue necrosis.

Suppurations which enter the pelvic from the abdominal region are perhaps most frequently associated with suprapubic cystotomy or other abdominal operation wherein first intention has not been attained, but suppuration has developed between the peritoneum and the underlying fascia. Traumatisms and lacerations involving the abdominal wall may produce like results. Perinephritic, perihepatic and psoas abscess may enter the part posteriorly from above. Suppurations the source of which are appendicitis not so very infrequently enter this pelvic region in like manner. Suppurations in connection with the inguinal glands may burrow deeply, perforate the deep abdominal fascia above or externally to Poupart's ligament, and from there gravitate into the pelvic space. I have in mind an instance of this latter description, where the pus after traversing one side of the pelvic space finally extended upward behind, mounting nearly to the kidney.

SYMPTOMS.

The clinical symptoms associated with suppuration in the part under consideration are liable to be somewhat obscure. Where suppuration follows secondary to and as a complication of fracture or laceration of the pelvis, extraperitoneal rupture or perforation of the bladder or rectum, then the chief clinical symptoms are due directly to the primary injury and will not be here considered. The secondary evidences of infection in such instances would lead the surgeon to suspect the ushering in of deep pelvic suppuration. In all instances

there are present generalized evidences of sepsis together with the characteristic range of temperature. Frequent and urgent urination is apt to be present even though the bladder has not been primarily involved, owing to the condition of pericystitis that the suppuration occasions. Localized pain may be complained of, but many times the sensations of pain are liable to radiate into the thighs, the hypogastric or inguinal region or into the back. If the suppuration tends to burrow in any of the directions already described, then resulting symptoms develop. If there is a discharge into the rectum or bladder there is the sudden gush of pus which appears in the feces or urine. If it points into the thigh the limb becomes flexed and generally tumefied. If into the scrotum or abdominal region tumefactions such as already described result. If evidences of sepsis, generally of a low grade, follow the operation of suprapubic cystotomy and one observes at irregular intervals much thick pus on the dressings, he should strongly suspect that the pus is from the pelvic space, which has become involved through an extension from the space of Retzius. Occasionally a case is encountered where all the remaining clinical symptoms are due to the cicatrix left by a preceding suppuration, which has ended in resolution. Most of such cases belong to a class where the suppuration has burrowed into the pelvic space from above, as may occur in connection with appendicitis, and where, as a result of abdominal surgery, the source of the inflammation has been removed Frequent urination, sexual impairment and generalized and somewhat indefinite symptoms of vesical and pelvic discomfort are the usual clinical features in cases of this latter description, provided the cicatrix is extensive. Where the cicatrix is not extensive no symptoms are apt to result or to persist beyond the period of convalescence.

DIAGNOSIS.

Diagnosis can be made through a careful consideration of the clinical evidences, together with inspection, hypogastric palpation, rectal and perhaps vesical exploration. The various forms of palpation as well as inspection are for the purpose of determining the existence of inflammatory tumefaction. The only vesical explorations necessary would be such as are employed to detect the existence of pericystitis. In making a diagnosis positive and exact through surgical exploration the probe is the chief and often the only necessary instrument. In case there is already an existing vent for pus the path of exit should be carefully determined and the location of the main pocket established. In case there is no vent and a brawny tumefaction is discovered it may be wise to make an opening to allow the entrance of the probe. Thus the space of Retzius, the inguinal region, the scrotum, the thigh and the loin may be opened. If a tumefaction is detected chiefly or wholly through rectal digital exploration no opening through the part should, however, be made for diagnostic purposes.

SURGICAL TREATMENT.

The surgical management of suppuration in this part or elsewhere lies in the establishment of free drainage. In order that drainage be free it must be dependent. As the pelvic cavity is deep the surgical problem of effecting dependent drainage arises. The fatality in this class of cases has hitherto been, and still is large, due, in my opinion, to inefficient surgery, death resulting from septic absorption, the source of which is an undrained area. In each individual case there are two surgical principles to be determined in connection with the establishment of the drainage: First, the location of the dependent pocket of suppuration, and, second, the dependent dissection to reach that pocket. The first step should always be the location of the pocket. No dependent dissection should be attempted till the pocket has been located. The silver flexible probe is the instrument to be employed in determining the location. In order that a probe taking a reasonably straight course may enter the dependent portion of this pelvic space it must pierce the abdominal wall on either side just below the point of peritoneal deflection and above and parallel to the outer portion of Poupart's ligament. In fact, the path taken through the abdomen is much the same as that chosen in making the incision to accomplish ligation of the external iliac artery. As the two lateral chambers of this pelvic space have no connection dependently, it is rare that both of them are involved by suppuration in a given instance, consequently but one abdominal incision for the passage of the probe is commonly necessary. Not uncommonly, as has already been considered, a suppuration tends to burrow upward and to point in the position indicated for the entrance of the probe. Suppose, however, it burrows upward in the median abdominal line along the space of Retzius. In such an instance the proper abdominal vent will be by a median hypogastric longitudinal incision. Through such an incision by much bending a probe can be able to take a tortuous course around the bladder and downward. But one can never properly locate the area of pelvic involvement by means of a probe so bent. In such an instance the proper procedure after making the median abdominal incision is to pass in the probe or director laterally, slipping its point along under the muscular abdominal wall below the peritoneal deflection until the proper spot above the outer portion of Poupart's ligament is reached, and then to make the lateral abdominal opening down onto the end of the probe. Through this second opening a second probe can be passed to thoroughly explore the deep pelvis. Where the pelvic suppuration has extended upward posteriorly, presenting a brawny area, somewhere above the crest of the ileum, an incision should first be made into that area, and then through the vent hole in the loin the probe should be passed and a counter-inguinal incision made exposing its point, as in the first instance. Likewise, where a burrowing has taken place into the thigh or scrotum, a primary vent can be made in that part and then a secondary counter opening made down onto the end of the probe in the inguinal region. In most instances, however, where burrowing has taken place into the thigh or scrotum, a brawny indurated area has first developed in the inguinal region, so it may be better in these cases to make the inguinal incision the primary one and to pass the probe through it into the pelvic space and out along the path the burrowing has taken into the thigh or scrotum, as the case may be, the incision in those parts being made secondary and its position determined by the end of the probe. Where the source of suppuration is in the corresponding abdominal space and from there has burrowed into the pelvic space it is advisable, in case the source of the suppuration can be tapped, to pass the probe along whichever lateral course the burrowing has taken and then to make the counter inguinal incision on its end.

The second step in the surgical procedure is the dependent dissection. This dissection should open a perineal path and expose the lymph space between the prostatic capsule and the rectum, the urethra being left in-

tact. In making this dissection the dorsal position and the Zuckerkandl incision can be employed; but what is far superior is the knee-breast position and the incision which I devised to expose the seminal vesicles and prostate, a description of which has been published in the May 4 1901, issue of THE JOURNAL of the American Medical Association. The finger now being introduced through the perineal incision and into the space between the prostatic capsule and the rectum, the end of the probe inserted through the inguinal incision can be plainly felt separated from the finger tip by the upward deflection of fascia which envelops the pelvic viscera. By firm pressure on the probe, aided perhaps by a snip with the scissors, this fascia can be punctured, the probe end coming in contact with the finger tip. A perforation having been so made, it is safer to divulse the opening rather than to enlarge it by cutting in order to avoid the possibility of opening a blood vessel in an inaccessible region. A perforated drainage tube of good caliber is next attached to the inguinal end of the probe by means of a cord passed through its eye, after which the probe, followed by the drainage tube, is dragged through the perineal opening and the lower end of the tube fastened at the perineal surface while the upper end is secured at the inguinal surface. The perineal wound is closed about the tube. If the inguinal opening is a counter incision, the primary opening being in the abdomen, the thigh or the scrotum, a second drainage tube should be placed connecting the primary opening with the inguinal one. In very rare instances, where both lateral chambers of the pelvic space are involved by suppuration, it is necessary to put a drainage tube through each side. The after-treatment consists in flushing out the tubes frequently with peroxid of hydrogen solution. The tubes should not be withdrawn until all slough has come away and until firm granulations have formed about them. With the establishment of thorough drainage such as has been described, it is wonderful how quickly convalescence is attained in these otherwise usually fatal cases.

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EXTERNAL URETHROTOMY FROM THE STANDPOINT OF THE GENERAL SURGEON.*

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The general surgeon is not infrequently called on, especially in his hospital work, to perform external urethrotomy for one condition or another, and it has seemed worth while to make an informal report of 50 cases that have come in my own practice within the last few years.

There is no operation so fascinating, nor at times so difficult to perform. A good knowledge of anatomy, patience, and careful, often slow, dissection is requisite. A single false step is frequently fatal to a clear operation. To complete an operation that has been started by another operator is most difficult, as the writer has found on several occasions. Naturally most of the operations are for deep stricture, but there are many other conditions, expected and unexpected, that require an opening into the urethra, and these conditions lend additional interest to an operation otherwise considered as a routine. The surgeon in the large hospital sees not the simple strictures that have been carefully watched and measured, but the infinite variety of complications, general and local, that call upon all of his surgical skill. By grouping these few personal cases I can perchance emphasize the interest and difficulty of the operation and by my own mistakes prevent others from falling into the numerous pitfalls.

As a rule, where any sort of a guide can be introduced into the bladder, the opening in the urethra is easily made. Rarely is there a stricture that will not yield to a whalebone filiform bougie if patient attempts are made to pass one out of half a dozen introduced down to the constriction. Where there is the least question as to the exact course of the guide it is safer to dissect open the corpus spongiosum until the mucous membrane is definitely seen and followed backwards, disregarding the guide which may be in a false passage. Rarely it may be advisable to open the bladder above the pubes in order to pass a guide from behind. Had I adopted this plan in one of my cases a fatal result might have been avoided. The incision through the skin and muscle should be made in the median line, with the patient lying squarely in the lithotomy position. When the corpus spongiosum is reached the incision frequently has to be carried to one side owing to the deflection of the urethra by scar contraction, extravasation, hemorrhage, etc. By splitting the bulb in the median line, hemorrhage is rarely troublesome; the reverse is the case when it is split to one side, and this untoward sign may be taken as an anatomical landmark. When the urethra is opened anterior to an impassable constriction, for which careful visual search must be made, the lateral walls are best retracted with silk sutures, or, as I learned from one of our surgeons, Dr. Post, by snapping each edge with an old-fashioned "bulldog" forceps. The mucous membrane should be sponged very gently; otherwise it quickly becomes rough and bloody and obscure to both sight and touch. A guide, such as a fine probe or a small director, once passed through a stricture, must not be removed until the constriction is enlarged, preferably by cutting backwards in the median line, so that a larger guide, such as a full-sized director or a gorget, can be passed alongside into the bladder.

In case of a tight stricture, admitting a filiform guide, Gavin's method of first cutting all the strictures, anterior and deep, with a Maisonneuve urethrotome and then at once opening the perineum on a large grooved staff, is worthy of trial. It shortens the operation somewhat, but is open to the objection that occasionally the guide will pass into false passages and then when the perineum is opened the anatomy is obscured by the bleeding and the incisions through extra-urethral tissue. All anterior strictures should be cut to full size at the time of the external urethrotomy if the additional shock and hemorrhage does not jeopardize the patient's life.

I have been accustomed, for the most part, to drain the bladder with a full-sized soft rubber catheter passed through the entire penis in case both anterior and posterior strictures have been cut, or through the perineum, alone, when the anterior urethra is healthy. The catheter siphons off the urine and is removed in two or three days. Rarely are there chills or urethritis in this period. After removal of the catheter I usually delay three or four days before introducing a sound, when I pass first a small or medium size, followed at once by one of full size. By observing this rule for the first week or two the pain is much lessened and there seems to be less damage inflicted by the large sound. Sounds are not passed daily, but every third or fourth day, as I believe

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Surgery and Anatomy, and approved for publication by the Executive Committee: Drs. H. O. Walker, A. J. Ochsner and DeForest Willard.

much harm is done by too frequent instrumentation. After discharge patients are directed to return every week for a month, and then at lengthening intervals up to once every six months or a year.

Patients with extravasation belong to the most desperate type that we have to deal with. Their general condition precludes long operation, the gangrene and distortion of the perineal contents require a good knowledge of anatomy and the quick recognition of familiar landmarks in unfamiliar places. Any instrumental guides are fallacious because the urethra is apt to be full of false passages and it is much safer to search rapidly for the mucous membrane, to recognize and cling to it.

External urethrotomy alone for enlarged prostate has a limited place, but occasionally it is indicated for drainage, exploration, palliation, etc. No cases are included in this series where the urethra has been opened for enucleation of the prostate, as these form a class by themselves.

The end results in the present series are known in only a few instances. The patients belong, as a rule, to a dissolute, shifting class. Many do not follow up methodical after-treatment; others, in case of relapse, go from one hospital to another and rarely do they take interest enough to report when requested. As a life-saving measure, and for at least temporary cure of a most distressing and dangerous affliction there is no operation more satisfactory than external urethrotomy. The permanent results must be studied in a different class of patients and by those who have a firmer hold on their patients than the general hospital surgeon.

STRICTURE.

There were 25 cases of external urethrotomy for simple stricture of the deep urethra, combined when necessary with internal urethrotomy for anterior strictures. It is not necessary to report each case in detail.

The causative gonorrheal attack antedated the strictures from five to forty years. About half the patients had noticed symptoms of stricture for one year to sixteen years. Three cases had previously had a rapid dilatation or a divulsion and one of these had had in addition an external urethrotomy. One case had had an internal urethrotomy, the deep stricture existing at the time not being cut for some reason. One case had had an external urethrotomy performed nineteen years before his present operation by Dr. H. J. Bigelow, and another case had had a similar operation done five years before, all after-treatment being neglected.

The bladder was drained for two or three days on the average. The perineal wound closed in half the cases in from eight to twenty-five days. Many of the remaining patients were discharged at the end of fourteen to twenty-one days with a rapidly closing sinus through which there was slight urinary leakage. How many of these developed permanent fistulæ it is impossible to state; only one patient, reported elsewhere, came back for relief of this condition. It is fair to assume, however, that a great majority of those discharged leaking healed in a short time, judging from the behavior of the patients that were kept under observation until all leakage had ceased.

In the few cases that were followed for varying periods and that paid attention to the after-treatment, a commodious posterior urethra was found on examination. The number is too small, however, and the intervals too variable to make the observation of any value. About half the patients in this class entered the hospital with retention and dribbling.

Patients were discharged as a rule, taking a 28 to 30 French sound with ease. In a small penis 27 F. was considered large enough. No attempts were made to overstretch the canal. Two patients died. In one the operation without a guide was started by my house surgeon, who got lost in the dissection of a perineum full of cicatricial tissue. Finally, as there were no landmarks to go by, the bladder was opened by blind dissection. Sharp bleeding followed. A relapsing hemorrhage a few hours later necessitated a second search, and again the bladder was opened and a catheter tied in, but the patient steadily failed and died in a few days. Autopsy showed that the bladder had been opened from the right and above the urethra and that the bleeding had taken place from the space between the bladder and the ramus. Into this space urine had leaked. There was a slight beginning peritonitis, the bladder was small and empty and the urethra full of false passages. Had the urethra been opened on a guide passed from the bladder outlet the result would have been different.

In the second fatal case, a feeble, senile man of 65, the bladder was distended to the level of the umbilicus and all attempts to pass any guide failed, so the deep urethra was opened and the bladder drained. The urine had been offensive and often bloody for several years. The pulse was intermittent and the lungs full of râles. He rallied well from the operation and then steadily failed and died in two days. No autopsy was allowed. Probably a preliminary aspiration would have been safer in this case.

One patient had suppression three days after an easy rapid operation; it readily yielded to diuretics. One patient, an Italian, 58 years old, had an external urethrotomy secondary to a suprapubic cystotomy. At the first operation a small catheter drew off over half a basinful of pus and urine, leaving the fundus still at the level of the umbilicus. A suprapubic opening then evacuated quarts of foul pus, urine and blood. No prostatic enlargement could be determined at this time. A month later several anterior and deep strictures of large caliber were cut and the bladder drained by a catheter through the penis. A month after the second operation the patient left, against our advice, still passing cloudy urine from a bladder unable to contract fully and with a goodly quantity of residual urine due probably to a small but obstructing prostate. Prostatectomy and persistent drainage would probably have corrected the condition.

EXTRAVASATION.

This class is of interest because of the gravity of the condition, the difficulty of the operation and necessity for rapid and thorough treatment. It is well to bear in mind that extravasation is not necessarily a purely mechanical phenomenon; not a few cases have a perineum full of urine and pus where strictures of large caliber only exist.

Case 1.—Sailor, 39 years old. Had been divulsed three times, an operation as unsurgical as any that I know of. Entered the Carney Hospital very ill with a foul, swollen perineum and scrotum, which were freely opened and drained. After recovery from the acute sepsis, his strictures, anterior and posterior, were freely cut, the latter without a guide. In a few weeks he was discharged, taking a 29 F. sound easily and with a healed perineum.

Case 2.—A patient dying with rheumatism and cardiac disease, unable to lie down, with general edema and passing his urine in drops through a pin-hole meatus, developed an acute extravasation. Under ether carefully given a staff could be passed into the bladder and the deep urethra was freely opened, allowing the escape of foul urine, old clots and pus. Perineal

drainage. Two days later a sharp hemorrhage took place, but was controlled by packing. On the following day the bleeding recurred from the deep sloughs and the patient died. In this case the operation was offered merely as a temporary relief to his urinary symptoms. It illustrates the feasibility of etherization in most advanced cardiac disease when the anesthetic is properly given.

CASE 3.—Eighty years old. Treated for malarial chills for two weeks before surgical advice was sought. When seen he was delirious with gangrene of the scrotum and edema of the perineum and penis. Under ether a filiform could be passed through tight strictures at the peno-scrotal angle and over this a staff could be passed, on which the deep urethra was opened, giving exit to stinking pus. The corpus spongiosum, gangrenous and isolated, was found pushed to one side. The anterior strictures were dilated sufficiently to allow catheter drainage through the penis. Improvement followed, but in three months he developed a fatal broncho-pneumonia.

CASE 4.—Forty-three years old. Had had his strictures rapidly dilated three times within fifteen years. His present trouble began with perineal swelling three weeks before entrance to the hospital, when a bulging perineum and edema of the scrotum was found. No guide could be passed into the bladder, so the deep urethra, necrotic and pushed out of place, was dissected open and the deep constrictions freely cut. A little later the anterior strictures were cut with an Otis uretheratome, and nine days later he was discharged, taking a 29 F. sound and passing a little urine through the rapidly-closing perineal wound.

CASE 5.—Fifty-three years old. Had had dribbling for three years, for the last year it being constant day and night. A series of tight strictures throughout the urethra was found and no guide could be passed into the bladder. A small extravasation was found pushing the corpus spongiosum to one side. False passages existed in all directions. After the mucous membrane was identified the strictures were freely cut and the bladder drained. Discharged in a month, taking a 30 F. sound and with a closed perineum.

CASE 6.—Forty-five years old. Symptoms of strictures for four years. Entered with an extravasation in the perineum, extending toward the groins so that the entire swollen penis was pushed forward from the pubes, the scrotum being wrinkled and not swollen. The deep strictures were impassable so that the canal was opened by dissection. Discharged without leakage in a month.

CASE 7.—Forty years of age, with a deep stricture of large caliber, had a greatly swollen penis, scrotum and perineum. Operation. Good result.

CASE 8.—Seventy-six years old. Entered with a gangrenous deep urethra, a deep stricture of 12 F. caliber and several tight anterior strictures. Operation. Good result.

FISTULÆ.

There were four operations for this lesion. Whether any cases belonging in other groups that were discharged from the hospital with a little leakage developed persistent fistulæ can not be told, but as patients were not allowed to leave until there was good evidence of a rapid, progressive closure of the perineal opening, it is fair to presume that this distressing sequela was uncommon.

CASE 9.—Fifty-seven years old. Had had signs of stricture for four or five years. At entrance there was a peri-urethral abscess. Anterior and deep strictures were cut to 31 F. and a catheter tied in through the penis for three days. Two months later, the wound not closing properly, the anterior strictures, which had recontracted, were again cut. A month later he was discharged against our advice, still leaking a little and admitting only a 26 F. sound. Two years later, after treatment at various places with sounds, etc., he reapplied for operation for the fistula. He was urinating every 15 to 20 minutes during the day and six to ten times at night. At operation a 20 F. sound could be passed through the urethra as far as the fistula, which was found to be a direct continuation of the deep urethra lined with mucous membrane. This was dissected away and sutured with catgut after free division of all strictures. In four weeks he was discharged, taking a 30 F. sound, with a healed perineum and normal micturition. Without doubt in the early operation the strictures had not been properly and thoroughly divided.

CASE 10.—Thirty years old; with a history of three attacks of gonorrhea; had had a perineal abscess, probably following a cowperitis opened by a physician eight months before entrance. He came in with a thick urethral discharge, and urinary leakage through a fistula opening in the left ischio-rectal region. Upon opening the bulb under ether, the sinus was found to start from an opening one-eighth to one-quarter inch in diameter in the side of the membranous urethra. The sinus was thoroughly curetted and the bladder drained through a perineal catheter, the sinus being packed with iodoform gauze. Nineteen days later he was discharged, taking a 27 F. sound and passing a few drops of urine at the beginning of micturition through the rapidly-closing sinus.

CASE 11.—Thirty-eight years old. Entered the hospital with several sinuses in the perineum and scrotum, an abscess of the latter region extending leftward to the top of the pubic bone. Two years before there had been an acute retention with extravasation followed by rupture, the sinus closing spontaneously in one month. Again, eleven months ago, there was a repetition of the trouble, followed by several abscesses and fistulæ, lasting up to the present time. No guide could be passed beyond the bulb. The corpus spongiosum was found pushed to the right. All strictures were freely cut and the bladder drained. Eleven days later he was discharged, passing urine through the wound and taking a 28 F. sound. All trace of the patient was then lost.

CASE 12.—Fifty-five years old. Had had a series of perineal abscesses, the present fistula dating its origin four weeks before operation. An easy combined urethrotomy on a guide was done and the patient discharged without leakage and taking a 30 F. sound in nineteen days.

TRAUMATIC RUPTURE OF THE URETHRA.

CASE 13.—The first case, a man 50 years of age, fell, two days before entrance to the hospital, injuring the perineum. He lay unconscious for twenty-four hours before he was found by his friends. At entrance there was extensive swelling of the perineum with extravasation half way to the umbilicus and into both thighs. Operation by Dr. H. W. Cushing, who opened the bladder by the perineal route and established drainage. Five weeks later, as soon as his condition warranted, the writer attempted a repair of the damage. On opening up the perineal fistula that had persisted since injury, a blind pocket, anterior to the bulb and containing no urethral tissue for nearly an inch, was found at the site of injury. Posteriorly the torn end was closed by cicatricial tissue, the entrance to this portion of the urethra being on the side. Anteriorly the urethra was closed by cicatrix. Both stumps were opened in the median line, but the ends could not be approximated closely enough to be sutured, so a catheter was passed through the entire length and the wound allowed to granulate. He was discharged in six weeks, passing most of his urine through the penis. The urethra, kept open by the passage of a 28 F. sound, showed a strong tendency to contract. His later history is not known. Had the urethra been freely dissected anteriorly the stumps could have been properly sutured together in all probability.

CASE 14.—The second case was brought to the hospital at once after injury and operated upon without delay. On opening the bulb on a staff much laceration of the spongy tissue and of the muscles was found. Nearly an inch of the urethra was destroyed. The lacerated spongy portion was sutured in the middle line with silk, but in the section where no urethral tissue remained the bulbous tissue was sutured over a catheter, the superficial tissues also being sutured, allowing for a temporary gauze drain. The catheter was removed on the third day and the patient discharged on the twenty-fourth day, taking a 28 F. sound and with a tight perineum. His later history is also unknown.

PROSTATIC HYPERTROPHY.

Although prostatectomy and suprapubic drainage will largely replace perineal drainage in cases of prostatic

hypertrophy, yet there will always remain an occasional case where the latter procedure is indicated.

Case 15.—Seventy-two years old. Entered the hospital very ill with hemorrhage and false passages into the scrotum and both thighs. The deep urethra was opened on a staff and the bladder drained through the perineum. Bleeding ceased at once, the wound slowly closed and by the end of two weeks the patient was discharged in good mental and physical condition, passing his urine normally at normal intervals.

Case 16.—Seventy-four years old. Entered with a history of prostatic trouble for five years, with occasional retention, asthma and epididymitis. Under irrigation and medical treatment he steadily lost ground, the urine being very foul and the testes becoming gangrenous. Perineal drainage was established and the testes curetted, but he steadily lost ground and died six days later.

Case 17.—Sixty-six years old. Entered with a distended bladder. Under irrigation he improved temporarily and refused operation until six weeks later, when perineal drainage was established. Ten days later diarrhea started up, he became delirious and died in a few days. Autopsy showed numerous sacs formed by giving away of the muscular wall and formation of hernia of the mucous membrane. These sacs communicated with the bladder by very small openings, mostly pinhole, all containing pus. Pus in both ureters and pelvis.

Case 18.—Seventy-two years old. This patient had symptoms both of stone and of an enlarged prostate. As I could not pass a lithotrite through the urethra, the bladder was entered through the perineum and the prostatic urethra stretched with the finger until the lithotrite could be passed through the perineal incision and the stone crushed. A large, soft catheter was left in for a few days. Later it was passed through the penis and the bladder drained for seven days, the perineal wound closing shortly afterward. Since this operation three years ago another stone has formed, but the prostatic urethra has allowed free use of the lithotrite and the evacuator and by occasional irrigation the bladder keeps sweet and clean and free from phosphatic deposit.

CANCER OF BLADDER.

Case 19.—This patient, a Frenchman, 48 years of age, had passed blood at intervals for two years. When he entered the hospital there was profuse bleeding, vomiting and very frequent, painful micturition. Operation was not allowed for three weeks, when, as he was rapidly failing and suffering intensely, the deep urethra was opened and a soft, pulpy mass curetted from the entire bladder wall. Hemorrhage stopped at once. He derived great relief from his suffering, but he was so weak from sepsis and loss of blood that he lived only four days. Had the operation been allowed earlier he could have been saved much intense suffering. Examination of the tumor showed papillæ with rapidly-growing epithelium and in addition large masses of epithelial cells in the deep tissues.

RUPTURE OF THE BLADDER.

Case 20.—One patient with rupture of the bladder was drained through the perineum most satisfactorily. He entered the hospital with a fracture of the pelvis and a properitoneal hemorrhage, originating about the neck of the bladder. An attempt was made to drain by gauze over the pubes and with a catheter tied into the bladder through the penis, but it was not satisfactory, as the urinary leakage into the space of Retzius increased, so two weeks after admission the perineal urethra was tapped and drainage established. On account of the pelvic lesion the operation had to be done with flexion of only one thigh. Exploration of the bladder failed to show the location of the tear, which probably was a small one. After seventeen days the perineal drain could be removed and the bladder rapidly resumed its normal functions, the patient being discharged in good condition three months after entrance.

FOREIGN BODY IN PERINEUM.

Case 21.—This patient, 53 years old, entered with acute retention, gangrene of the perineum and edema of the scrotum. He was alcoholic and septic. A sound could be passed into the bladder, but it forced foul pus from the meatus, showing that there was a perforation of the urethra in some part of its course. A history of many attacks of gonorrhea could be obtained, and latterly he had had severe pain for several days at the end of the penis, with urination once a day, when he voided a quart of urine without blood. At times the flow of urine would suddenly stop without increase in the pain, nor would the pain subside with an empty bladder. Under ether the perineum was freely opened with evacuation of foulest of pus and gangrenous masses. The bladder was then drained. The abscess cavity extended into both ischio-rectal fossæ, around the urethra and upward behind the pubes and completely around the rectum. In the left fossa a sharp-pointed fishbone was found, evidently having escaped from the rectum. No history of its ingestion could be obtained. Much shock followed and in a few days he developed delirium tremens and died eleven days after admission.

GUMMA (?) OF AN ANTERIOR STRICTURE.

Case 22.—This patient I saw five years ago with Dr. Dorman. He was 35 years old, had had a mild gonorrhea over twelve years ago and syphilis ten years ago, for which he was treated a few months. His wife had borne two healthy children and one anencephalic monster. He had noticed a small lump in the anterior urethra fifteen months before my visit, but it had increased only within the last four to six weeks. Recently the nodule had grown tender and erections were painful, the penis being curved forward. Three days before I saw him there was retention, relieved by passage of a small catheter. I found the prepuce slightly swollen, but capable of retraction. One inch from the meatus was a hard elastic swelling three-quarters of an inch in diameter, tapering posteriorly into the spongiosum, the overlying skin being freely moveable. Nothing could be passed beyond the tumor, but as the patient could urinate he was treated with hot applications and iodid of potash. Three days later, the swelling having increased and showing signs of breaking down, an incision was made on the under side of the tumor and a small, foul abscess evacuated. At the depth of the wound the urethra lay exposed, but not perforated, and laterally the original tumor could be plainly identified. Nothing could be passed beyond the tumor. Voluntary urination followed and the incision rapidly closed, but there was still pain during micturition at times and occasional chills, though the tumor was apparently subsiding for a couple of weeks, when he suddenly grew worse and entered the hospital. The whole penis had suddenly swollen to about twice normal and all attempts to pass the anterior swelling failed. Under ether the bulb was opened. No deep strictures were found, but at the penoscrotal angle two of a caliber of 20 F. were cut to 30 F. A filiform was then passed from behind through the anterior stricture, which was cut, first with a Maisonneuve and then with an Otis urethratome. On cutting through the scar tissue into the dense surrounding tissue a small abscess was opened. Not long afterward the patient was discharged, the tumor gradually disappeared, but whether or not on account of the persistent use of the iodid it is difficult to say. There has been no return of the trouble. Unfortunately a section of the tumor was not taken for examination, and it is impossible to determine whether it was a chronic inflammatory deposit around the stricture or a gumma, the former condition being the more probable, although at the time it had all the appearance and behavior of a gumma that had become infected.

IMPACTED CALCULI.

Case 23.—Thirty-seven years old. Had had an external urethrotomy for stricture, probably gonorrheal, eighteen years ago. At the time of the present operation there was dribbling. On exploration through the perineum for what was supposed to be an impassable stricture, a stone one and a quarter by three-quarters of an inch was found impacted in the prostatic urethra with a perforation through which the urine passed from the bladder, and projecting anteriorly into the deep urethra was a spur three-quarters of an inch long, lying against the mucous membrane and projecting from the main body of the stone. Four weeks after its removal he was discharged, passing a little urine from the perineal wound.

CASE 24.—About 60 years old; was treated for pneumonia for a week before admission to the surgical ward, when he was delirious, septic and in bad general condition. The bladder was distended to the umbilicus and constantly overflowing; no instrument could be made to enter. In the perineum was a hard, irregular tumor, supposed to be a beginning extravasation, but on opening the urethra a stone one and a quarter by three-quarters of an inch in diameter and facetted, with twenty-five small stones, one-eighth to one-quarter of an inch in diameter and more or less faceted also, was found lying in a sac lined with smooth mucous membrane, communicating with the urethra through a small opening in the anterior portion of the bulb. For a few days the patient was very ill, but he gradually improved, and at the end of three weeks was convalescent. The only history that could be obtained dated back thirty years, when he fell down the hold of a vessel and passed blood from his urethra. What little trouble he had had with his urinary organs he dated from this accident. At best, he was a stupid, ignorant Irishman and no better data could be obtained.

DISCUSSION

ON PAPERS OF DRS. LEONARD, ANDREWS, FULLER AND MUNRO.

DR. ARTHUR T. CABOT, Boston—As five minutes is insufficient for the discussion of the four papers, I will confine myself to remarks on the first. We all know the difficulties of diagnosis in many cases of renal calculus. When the classical symptoms are present and the patient has passed bits of stone, the diagnosis is not difficult, but we have all had cases where the symptoms pointed to vesical or prostatic trouble, and yet entirely cleared up after the passage of a renal calculus. We also see many cases where we have distinct evidence that the trouble is renal, but have difficulty in deciding between tuberculosis, movable kidney, moderate hydronephrosis and renal calculus. There are cases in which, while the evidence is good as to the nature of the trouble, there is difficulty in deciding which kidney is affected. In these cases, we know the advantages of ureteral catheterization, and Dr. Leonard is doing good work in urging the importance of the use of the Roentgen rays in these cases. I think, however, that we must remember that while the evidence of the *x*-ray is so reliable when it is positive, especially when confirmed by successive examinations, that negative evidence even when constantly confirmed is not wholly to be relied on. Many stones have been removed from patients where with the greatest care the *x*-ray could not demonstrate them. It does happen occasionally that a stone is found which utterly escaped careful *x*-ray examinations. One *x*-ray plate should never be relied on even for a positive diagnosis and certainly not for a negative one. I have not had much experience in the use of the *x*-ray for the discovery of ureteral calculi. I saw one case in the practice of a colleague in which the picture was positively conclusive and the calculus was found exactly where the plate showed it, just above the brim of the pelvis. When the calculus has passed lower down into the pelvis, it is against a bony background and the use of the *x*-ray is thereby interfered with. Considering the other means of locating ureteral calculi, I have found the seat of tenderness in these patients to be a very accurate guide to the location of the calculus. Here again, when the calculus gets past the brim of the pelvis, it is more difficult to make it out. The rectal and vaginal examinations should never be forgotten in attempting this localization. I have had one case in which a large calculus was easily located just above the vault of the vagina in a woman. Cases of renal calculi are not ordinary emergency cases; we have time to study the symptoms as the patient is in no immediate danger. In ureteral calculi, however, the condition may be much more urgent and it may occasionally happen that while a very serious condition of anuria exists the symptoms are utterly insufficient to locate the calculus which is causing the trouble. In such cases, we have a last resort in an exploratory operation. With the abdomen open, the condition of both kidneys and of the ureters down to the bladder can be carefully studied. If calculi are found and located, they can often be intelligently operated on by an incision which reaches them from without the peritoneum and the median incision into the abdominal cavity adds practically nothing to the risk of the patient. To illustrate this, I will recite briefly a case which has already been published, but which may not be known by many of my hearers:

The patient was a man of advanced years who had during his life, at different times, passed calculi from both kidneys. At the time that I saw him, he had passed no water for six days, and the catheter introduced brought out one dram from the bladder. The pain in the attack had been so slight that he regarded it as a slight lumbago. There was no tenderness to be discovered and we had no guide as to the seat of the calculus. This was before the *x*-ray had been discovered. I did a median laparotomy, palpating the kidneys and the ureters. The right kidney was largely distended, but the left one was of normal size. I argued that the function of the right ureter had probably been interfered with years before, and that the left kidney, which was the useful organ, was now stopped by a calculus. With great care, I palpated the whole length of both ureters and then making a lumbar incision on the left side palpated that kidney and ureter between my two hands, one inside and the other out. I still could find nothing and was obliged to desist, but expressed the opinion at the end of operation that it was quite probable that my manipulations would start the calculus and relieve the patient. This hope was realized. Within the next twenty-four hours the patient passed two gallons of urine. Subsequently, I pumped out his bladder and obtained the fragments of a calculus which my examination of the ureters had undoubtedly dislodged. An interesting feature of this case was that two months later I was summoned to him again with another attack of renal colic located distinctly in the left side. Remembering the effect of palpation before, I did the same again through the abdominal wall and as a result the pain entirely ceased within a few hours. The next day he passed a calculus very much larger than the one which I obtained after the condition of anuria. This method of treatment by massage over the ureter is worth remembering in connection with the passage of these calculi, and I have used it with apparent benefit in other cases.

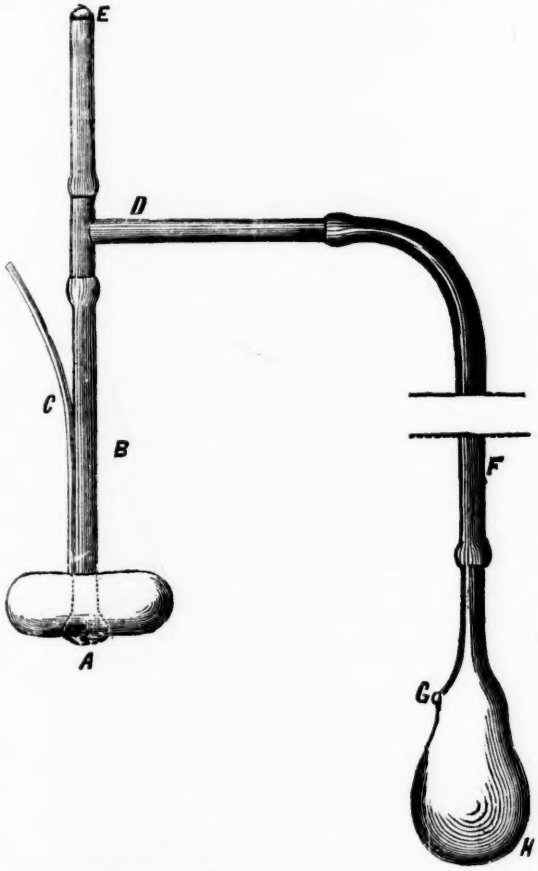
DR. E. BLASUCCI, New York City—It would not be wise on my part to say anything on the subject under discussion were it not for the opportunity it gives me for some consideration on suprapubic cystotomy. At the present status of surgery the after-treatment of this operation is still a matter of serious consideration, owing to the difficulty we find in draining the urine out of the severed bladder and thus prevent the infiltration of it in the Retzius space and the pericystic connective tissue. Syphon-shaped tubes inserted through the wound into the bladder act merely as drains, and they can not accomplish the task of maintaining the bladder empty, which is the first requirement to avoid infiltration.

The causes of disturbance in bladder syphonage are only two, namely, encroachment of the bladder mucosa on the syphon eyes and penetration of air into the tube, both occasioned by the excessive action of the syphon. It follows, then, that the stronger the aspiration power of a syphon is, the higher the pressure of the urine must be to detach the bladder wall from the opening of the tube, and the larger the quantity of liquid that a syphon can discharge in the time unit, the easier for the air to penetrate the tube. Therefore, the ideal syphon for bladder drainage should be one in which the aspiration power is reduced to a minimum, in order to collect in the time unit exactly the same quantity of urine discharged by the ureters.

On this principle I have devised an apparatus whose distinctive characteristics permit it to accomplish the real action of a syphon. It consists of a rubber tube of five millim. caliber with very solid walls, divided into two parts: a short or vesical branch (B) and a long external one (F). The vesical branch has four large holes at its extremity (A) and carries an oval-shaped collapsible balloon with a small tube (C) to inflate it. The external branch carries at its end a glass bulb (H) with a very small opening at its upper part (G). The two branches are connected by a T-glass (D) whose third branch (E) is used for irrigation. The vesical branch is introduced into the

cavity with the balloon collapsed; the balloon is then inflated through the small tube and this tied. The edges of the bladder and abdominal wounds are sutured close around the tube. The excessive length of the tube is cut off, the external branch connected and the syphon put into action, injecting liquid (through E). The glass bulb, immersed in a vessel containing sublimate solution, is placed one foot below the bed level. A roller bandage placed under the horizontal branch of the T tube prevents the lateral displacement, the bending and occlusion of the vesical branch. Owing to the great difference in size between the external and internal openings of the syphon, the aspiration power is reduced to a minimum, thus preventing the encroachment of the bladder mucosa to the internal opening of the instrument and the rushing of air through the wound and bladder into the syphon.

The inflated balloon kept adherent to the anterior wall of the bladder by the weight of the external branch keeps the viscus slightly distended and immobile, thus assisting the healing process. Furthermore, it checks hemorrhage, keeps the instrument in place by its own weight and prevents any



filtration of urine through the wound, in case the action of the syphon is disturbed. Clots, shreds and detritus gather in the bottom of the glass bulb while the urine flows slowly and steadily through its upper opening.

I do not usually keep the syphon in place longer than three or four days, the time necessary to have good granulation of the surrounding tissues protecting against the infiltration of urine when the tube is removed. By removing the instrument at the proper time, the healing process is generally very active, and I have seen patients urinate through the urethra the very first day the bladder was freed from the instrument. In my last case complete cure was obtained on the tenth day, and I do not see any reason why I should recur to primary reunion of the wound, if I can obtain the same result with a safer method.

Dr. J. S. Horsley, El Paso, Tex.—Dr. Cabot mentioned a case of renal calculus that finally cleared up on the passage of a stone. There is also a large class of cases that is very difficult to diagnose, for they often have the classical symptoms of renal calculus without any stone. I had such a case three years ago in a woman fifty years of age on whom I operated. About nine months before the date of operation, she developed attacks of nephritic colic which were very painful, occurring at first about every week and later much oftener. A short while before the operation she was having several attacks in a day, the pain being on the left side in the back and radiating down toward the pelvis. There was constant tenderness over the left kidney. The urine contained albumin, pus and blood; also some hyalin casts and a quantity of renal and pelvic epithelium. Several months before the operation she passed a uric acid calculus. The case seemed so typical that I advised operation. No skiagraph was taken as an *x*-ray apparatus was not available in El Paso then. On cutting down on the kidney it was found to be large, probably twice its normal size, tightly bound by adhesions and higher than normal. The kidney was finally delivered in the wound, but no stones were found, although an incision was made into the renal pelvis which was thoroughly explored with the finger. The wound was treated openly and the kidney drained, the resulting fistula closing in a year. From the time of the operation till now the patient has never had another attack of nephritic colic.

Dr. A. J. Ochsner, Chicago—In discussing Dr. Leonard's paper I wish to emphasize the value of the segregator invented by Dr. Harris of Chicago, which is thoroughly reliable if it is carefully applied. I have used it in a large number of cases and the reason I speak of it at this time is because it supplants in almost all cases the catheterization of the ureter. I believe that the ureter is an exceedingly delicate apparatus and that except in very rare instances it is not wise to meddle with it. In any case it is not proper if it can be avoided by a simple and harmless machine like the Harris segregator.

As to the skiagraph for diagnosis in calculi of the ureter, my personal experience has been unsatisfactory, I believe, because it requires an expert to do the work. My work was done by one of the best men in Chicago, but whenever he has demonstrated the presence of a calculus it has usually been absent, and vice versa. The day before I came to this meeting he had demonstrated two beautiful calculi in the ureter. We had all made a diagnosis of appendicitis. The skiagraph was one of the most perfect I had ever seen. Notwithstanding the fact that I felt positive the patient was suffering from appendicitis I made an incision along the line of the left ureter. I made a thorough search for the calculi, which I finally found in the mesentery. The patient had tubercular mesenteric glands which had undergone calcareous degeneration. It seems that in order to be of positive diagnostic value the skiagraph should show the outline of the kidney itself very definitely, and on this the distinct shadow of the calculus.

I consider Dr. Andrew's paper one of great value, although I am not a competent judge because I have never considered the subject from this standpoint. We should bear this paper in mind and should study the conditions he has introduced. With the operation of prostatectomy by the perineal route I have had a most satisfactory experience in a number of cases since I have come to appreciate a few relatively simple conditions. It is, of course, necessary to have the bladder in as nearly an aseptic condition as possible at the time of operation, and to have the general condition of the patient improved as far as this can be accomplished before the operation.

I have made the horseshoe-shaped incision through the perineum, described by Zuckerkandl, through which the lower end of the prostate gland can be exposed perfectly. There will be considerable bleeding from the internal pudic arteries unless they are grasped with artery forceps before they are cut. These vessels are ligated and the lower surface of the prostate gland is thoroughly exposed by blunt dissection. The wound is now held open and an ordinary sharp cat's-paw retractor is hooked into one of the lateral lobes of the gland and the latter is drawn downward. The capsule of the gland is then incised on each side of the middle portion and then first one and then the other lobe is enucleated to a point near the middle, which is left until the last because the veins in this portion give rise to a considerable amount of hemorrhage un-

less they are compressed with gauze. If this portion is left until last it can at once be compressed with gauze and in this manner the entire amount of hemorrhage can be reduced to a minimum. In separating the middle portion care should be taken not to injure the anterior portion of the urethral canal. The points I desire to emphasize are:

1. The prostate should be well exposed.
2. It should be drawn down with sharp cat's-paw retractors.
3. The capsule of the right and left lobes should be freely incised.
4. They should be enucleated to a point near but not into the middle portion which should be enucleated last, care being taken not to injure the anterior portion of the urethra.

By observing these precautions this operation can be made relatively very safe and easy.

DR. JAMES E. MOORE, Minneapolis—Following the example of the other gentlemen, I shall limit my discussion to one paper, that of Dr. Andrews. The matter of prostatectomy was before us at the meeting of the American Surgical Association last week and it is a real live topic. We owe much to Dr. Andrews for demonstrating that the size of the prostate is not the whole cause of obstruction and I have a number of post-mortem specimens which show this to be a fact. Clinical evidence of obstruction is not always in proportion to the size of the gland and even contracted glands may give rise to obstructive symptoms. I believe the Doctor strikes the keynote of advance when he recommends partial prostatectomy. As time goes by we are able to get permission to operate on these patients at an earlier age and we shall then have to preserve the generative functions. It is possible to make a partial prostatectomy and keep clear of the urethra, but usually you want to open it. You can perform a partial prostatectomy and preserve the seminal duct. I believe we shall do this more and more in the future, but the urethra, as Dr. Andrews says, is almost always opened. I did a partial prostatectomy on one side last month, removing all of the lateral lobe on the left side but only a part on the right. The Doctor's attitude towards the proper route to take when attacking the prostate is ideal. We are not idealists except in theory and we are very prone to go to one extreme or the other. Most of our operations have been done suprapubically, but we do not do the operation very often because the patients die. The Doctor's suggestion that we select the route particularly applicable to the case is a good one, but I am sure we are not going to be practical in this respect. I believe that the perineal route will be the route of choice in the future and to those who have not employed it I recommend it. You will find that instead of being a difficult and trying procedure it is a very simple one and you will be surprised to learn how easily you can remove the prostate this way. You can do it quickly and easily, which is a great advantage. The development of this branch of surgery was very beautifully demonstrated at the meeting of the American Surgical Association last week. Men who know the most about this subject spoke and they said their early operations were suprapubic, but they were not satisfied with this. Drainage is not satisfactory unless they made a perineal opening. Some of the cases died septic because there were large holes through the bladder. We should attack it from below as it is not the bladder that is at fault. According to the experience of those gentlemen, they said the suprapubic route was unsatisfactory and they have begun to treat from below. All of them finally settle down to the fact that the route of choice was through the perineum because it avoided all the dangers of the bladder. This is an innocent organ and the lower operation is so easy of execution.

DR. JAMES B. BULLITT, Louisville, Ky.—In discussing Dr. Fuller's paper, I would like to report one case in illustration, showing what serious things may result from pus being pent up in this neighborhood. The patient was a young man to whom I fell heir at the hospital and he was in a desperately ill condition. He entered the hospital a few weeks before, having been aspirated outside the hospital for retention of urine. After entering the city hospital he was again aspirated and gradual dilation of the urethra followed. The urethra became patulous, but dulness extended almost to the umbilicus. The tumor looked like an over-distended bladder, but knowing that it was perfectly empty was evidence that the collection was extravesical and extraperitoneal. The situation of the puncture which had been made before gave some information and an incision above the pubic arch gave out pus. The bladder had been dissected loose from its pubic attachments so that the finger went back against the rectum. On carrying curved forceps down, the perineum was made to distend. This place was selected for the incision and the opening was dilated with forceps. A drainage tube was passed all the way through. He made a very satisfactory convalescence and uneventful recovery. The indications were so absolutely plain by the natural course of the dissection of the pus that the blind finger readily found it.

DR. JOHN B. MURPHY, Chicago—Dr. Andrews has outlined the perineal route which is the one of favor at the present time. There is an element in connection with the development of the urethra in enlargement of the prostate which must not be forgotten. In an enlargement of the prostate there is always an enlargement of the urethra and if you will notice the literature you will see that there have been a number of perineal fistulæ. As the prostate enlarges the urethra enlarges and if a complete prostatectomy be done and the posterior urethra is divided and partially removed this will be very different. It is true, in making this dissection we avoid perineal fistula. I was surprised to find that there was a diminutive bladder formed outside of the urethra and when this was full the patient would press on the perineum and empty the bladder. As to the incision, it must avoid a division of the septum. When the rectum is displaced forward a central division is made, but it is not necessary to attack the vessels in the middle of the prostate. I always divide far from the septum. In the fourteen operations I have done, thirteen were by the perineal route and the other one by the suprapubic. The enlargement of the so-called middle lobe is sufficient to justify its removal in some cases, but where I did this by the suprapubic route I was seven weeks getting the patient out of the hospital. The abdominal route requires a much longer period of convalescence. Drainage is very important in these cases. Hemorrhage may be controlled in two ways, by compression and by forceps.

DR. A. H. FERGUSON, Chicago—Perineal prostatectomy is a live subject. I have discarded the suprapubic route and will not return to it unless I am stuck by the perineal route. The pathologic conditions that I have found have been interesting. I make a perineal section, get the finger into the bladder, pass in the forceps, take the prostate out entirely or piecemeal. This is comparatively easy and simple. This operation should be done when the middle lobe is enlarged and the two lateral lobes are not. I have had enlargement of both lateral lobes in a number of cases with or without the enlargement of the middle lobe and on these I operate by the median incision. Those large incisions going from one side to the other I don't like, as the traumatism is too great. It is unnecessary to destroy the pelvic floor and in using hooks there is danger of getting into a plexus of vein. I put one finger in the rectum and pass the knife in until I touch the apex of the prostate when one sweep of the knife is sufficient. With a couple of retractors the structures are drawn laterally to each side. The finger is put in again and the enucleation is carried on. So soon as this is done sufficiently to use the forceps I do so. I then put in a sound and having gotten into the prostatic urethra I pass the finger into the bladder. You can enucleate with the finger and you can use your forceps to take it away piecemeal. You do not destroy the sphincter action of the bladder, but pulling it down with those hooks is dangerous. The reason Dr. Murphy gets a secondary bladder is because he gets a leakage from the first bladder. I have had 21 cases without a death or a bad result, the ages varying between 49 and 82. I have had them with stones in the bladder and all the other complications. I operated on three cases at Quincy where I had no time to prepare for the operation. One case was where the testicles had been removed and one was in a man 82 years old with a hernia. I operated on the hernia first and then on the enlarged prostate. The other had been operated on by the supra-

pubic route. In none of my cases did I get a secondary bag in the urethra. In one case the urethra was very small.

DR. W. J. MAYO, Rochester, Minn.—I wish to add my testimony as to the value of the Harris segregator in cases where the bladder is fairly normal. I wish Dr. Andrews would go a little further into his results. As to Dr. Leonard's paper, one point he brought out was that in a large percentage of cases the stone was in the ureter and not in the kidney. My own experience leads me to believe that this is true. As to the possibility of stone in the ureter resembling appendicitis, I have cut down once for disease of the appendix and found a stone in the ureter.

DR. HUGH H. YOUNG, Baltimore—Dr. Leonard has brought out much valuable material and deserves great credit for the excellent work he has done with the *x*-ray. Calculi of very small size can undoubtedly be seen if the radiograph is properly taken, and no operation should be undertaken in nephrolithiasis without a previous *x*-ray examination. But of even more importance is the cystoscope, in order to determine the presence of an opposite functionating kidney, which can take up the work of the two after operation. It is not necessary always to catheterize the ureters. If, with the plain cystoscope, we see blood coming from one side and clear urine ejected at normal intervals and in sufficient amount from the other, we may be certain as to the affected side and the practically normal condition of the other. But ureter catheterization, even in the male, is no difficult procedure, and it gives invaluable evidence as to the condition of the two kidneys which nothing else will show. In view of the fact that a calculus which has completely blocked the ureter may lead to a gradual atrophy of the kidney without furnishing a single symptom of what is occurring, it is important, after the cessation of attacks of renal colic, to determine by the cystoscope that the ureter is not blocked, the kidney functionating. If the ureter is blocked, operation is necessary to save the kidney from utter destruction.

Both the cystoscope and *x*-ray may occasionally lead to error, as in a case of mine in which the radiograph showed a stone in the right kidney and the ureter catheters obtained purulent urine from that side, but clear urine from the other. This calculus was removed, but the patient died of uremia, and autopsy showed a long kidney on the left side with a bifid ureter and two distinct pelves, in the upper of which was a stone tightly impacted and so high up that it was above the level of the *x*-ray plate. The ureter catheter had tapped the lower pelvis which was healthy, thus obtaining clear urine. But such cases will rarely occur.

In the lengthy discussion which has already been given to the subject of the prostate, I am sorry not to have heard one word about the Bottini operation. We have heard nothing but prostatectomy. We are led to believe that this major operation is so free from danger that it can be performed on any and all cases.

There is no question but that radical enucleation of the prostatic lobes can be easily done by both the suprapubic and the perineal route, and in suitable cases with perfect results. In fifteen prostatectomies I have had but one death, attributable to the operation, and in this case the patient had double pyelitis and should not have been subjected to so grave an operation. If we could get these patients early, prostatectomy would rarely be fatal and our results would be radically curative. But we do not get them thus. In eighty cases of hypertrophied prostate which I have treated, the majority have been over seventy years of age, and often in such weakened condition that the mere anesthetic necessary for prostatectomy would almost certainly have killed them if the operation had not. The failure to recognize this fact has, in my opinion, been responsible for the high mortality shown by collected prostatectomy statistics. These statistics have been lost sight of in the recent wave of enthusiasm over perineal prostatectomy which has spread through our surgical community, and this present fad will surely have to answer for many deaths in the near future. Now, the Bottini operation is not an ideal procedure—radical removal of tumors is always the prettier operation. But the Bottini operation can be done in a few minutes under local cocain anesthesia with the loss of but little blood and often none. The wound is sealed by the cautery and sepsis can rarely occur. The result is generally immediate; catheterization usually never being necessary after the operation. If careful cystoscopic examination has been performed the operation is no more in the dark than prostatectomy.

I am not surprised that the cautery operation does not appeal to the general surgeon who has not had a chance to study carefully its workings and who does not often use the cystoscope. I, too, performed only prostatectomy until forced to use the Bottini by an encouraging literature, and the presence of desperate cases in very old men on whom I realized prostatectomy would mean certain death. I have now operated by electro-cautery on something over fifty-five cases with but three deaths, and in two of these pyonephrosis was present. The ultimate results have been excellent, often immediate, and some of the cures truly wonderful. The patient has frequently been out of bed on the second day and left the hospital in a week. I have had three patients over 80 years of age, nineteen over 70, without a death. I feel certain that prostatectomy would have had a high mortality in these cases. There were also a number of cases of the small sclerotic variety in which the prostate was too dense to be enucleated and in which the simpler Bottini proved sufficiently radical. When I find a patient in fair condition for operation, and with an enucleable form of hypertrophy, I perform a complete prostatectomy and feel sure of perfect results; but when he is old and feeble I do not think I can in justice to him attempt such a major operation, when I know what splendid results can be obtained by the much less dangerous Bottini operation. The combined electro-cautery instrument (which I described in THE JOURNAL, Jan. 12, 1902) with its multiple blades make the procedure a very accurate and more certainly successful one than the previous single blade afforded. I am so thoroughly convinced of the splendid results obtainable by the Bottini operation that I can not sufficiently express my disgust of those who, never having tried it and ignorant or wilfully neglectful of its extensive and thoroughly convincing literature, continue to condemn the procedure. Such men are perverters of scientific truth and a menace to surgical progress.

DR. PARKER SYMS, New York—When I first entered on this field of work there was scarcely such a thing recognized as perineal prostatectomy, most of the work being done by the suprapubic route. My own impression was that the large mortality was due to too much being done to the patients at the time of operation and too much required of the patients during the period of convalescence. The journals are full of articles on perineal prostatectomy and I am delighted to see that the results bear out my opinion of years ago. It is the safest procedure. As to the Bottini operation, it is certainly a thoroughly unsurgical procedure. It was definitely decided long ago that we must not do an internal urethrotomy on account of the lack of safety to the patient. I believe that the perineal prostatectomy, as compared with the Bottini operation, is a radical permanent cure, while the Bottini is a permanent cure in only a certain proportion of cases. It so happens that I expect to do a prostatectomy if I can on a man who has been subjected to his fourth Bottini. He has undergone these operations at the suggestion of one who is most skilful and most renowned in this field of work. As regards mortality, I believe that when our methods are perfected and our personal experience has increased the radical procedure of removal of the prostate by enucleation will be found to be much safer than the Bottini operation. Whenever we have a patient and the question arises as to his ability to withstand a severe operation we shall decide that the perineal is the least severe of the two. I am interested in the various methods proposed for perineal prostatectomy and especially in Murphy's and Ferguson's work. Their results have been excellent. As to my own work and my own modification of the method, I aid the operation by the introduction into the bladder of a collapsed rubber ball attached to a long rubber stem. This is introduced into the bladder through an opening made in the membranous urethra. I dilate to about 2½ inches, the stump is clamped

and the bulb acts as a retractor. This aids by pushing the prostate slightly downward and it also is a valuable adjunct to prostatectomy in that as fast as one portion is removed the side collapses. As to my results, I have operated on 20 cases and not only has there not been any deaths but it has been without any serious impression whatever on the patient. My patients are up on the fifth day and are walking about on the sixth or eighth day. My final healing has been slow in some of the cases, but the men have been immediately relieved and there has been no case of sepsis. I think I am right in saying that there has been no case in which the man has not been much better 24 hours after the operation than he was one hour before it.

DR. LEONARD, in closing—As to the accuracy of the negative diagnosis by the Roentgen method, my diagnosis has been found incorrect in only 5 cases out of 254 examined. An error of less than 2 per cent. compares favorably with any other surgical diagnosis. In one case the calculus was in the upper calyx of the left kidney and was lost in the way Dr. Young described, through faulty technic, the plate was not placed high enough and the shadow of the calculus was cast above it. In the 4 other cases the calculus was so small that it subsequently passed. In no other case operated on has a calculus been found where a negative diagnosis had been rendered. In two or three cases the operator has failed to find a small calculus shown in the negative. The negative diagnosis has been confirmed by operation in 75 to 100 cases. The others have not been subjected to operation. The value and accuracy of the method is also attested by 14 cases in which this method has determined the exact location and size of small calculi and rendered an expectant line of treatment rational and safe. In these 14 cases the calculus was subsequently passed without operation. To avoid the superposition of the calculus shadow over that of the bones the light is sent obliquely through the pelvic outlet. However, the calculus shadow can be detected through that of the bones since it adds density to that of the bone shadow. Small calculi may be crushed during operative manipulations and overlooked. A positive diagnosis may thus be made to appear at fault. A Bigelow evacuator should be used before operating to see that the calculus has not entered the bladder, and after operation if the calculus is not found, as it may have been crushed and have entered the bladder.

The cases reported by Dr. Mayo confirm the opinion expressed that ureteral calculus can be easily mistaken for appendicitis, and show that where a doubt exists the Roentgen diagnosis should be employed. Urinary fistulæ, subsequent to a nephrotomy in which calculus was suspected but not found, have resulted in two cases in which calculi were found by the Roentgen method blocking the ureter.

DR. ANDREWS, in closing—I would like to interest the gentlemen in this method of mine which I have tried three times and the technic as worked on the human subject must be modified as compared with animals. The incision differs very little from a perineal incision and extends a little further forward than Ferguson's incision. I did not know how much of the prostate I cut away in some cases. It is not easy to save the internal pudic artery and those large branches running to the bulb. I was obliged by broad ligament forceps to clamp the whole urogenital floor. The three cases have recovered without the slightest bad effect. One case was one of total obstruction of long standing, but I have lost sight of the second case. In the third case I removed one-quarter of the gland. The prostatic capsule seemed to open and I am sure that a great deal of the constriction had been removed. I believe our efforts should be not to avoid destruction of the urogenital diaphragm or pelvic floor which is formed largely by the levator ani muscle. We should intentionally destroy on one side and in front. Your pelvis drops, your retroprostatic pouch is abolished and this is a very curative element.

DR. FULLER, in closing—Most of the discussion has turned to the prostate and this is certainly a more burning point than the paper I read. I am extremely glad that the general profession are waking up to do something for prostatic hypertrophy. I was sorry to hear Dr. Young speak against the so-called furore. I suppose that one-half of the cases I have operated on have been pronounced bad cases; too bad, in fact, to warrant a radical operation. As long as the case lives and is not moribund I feel that prostatectomy is justifiable since death surely ensues if nothing is done. As to the Bottini operation, the authority for the procedure is lessening in this country and in a little while I expect the procedure will become quiescent and remain so perhaps for another twenty years. A short time ago many loudly proclaimed that stricture could be cured by electricity. Where are they to-day? You can get, many times, immediate results from the Bottini operation, but if you will follow your cases for months or a year or so you will find you did not get the good results you thought you did. As to the method of taking out the prostate, I have been interested in Dr. Andrews' paper. I do not like, however, extravesical operations. The correct thing is to open the bladder rather than to spare it. How many patients that come for operation have sterile bladders? Ninety-nine per cent. have infected or putrid bladders. If you do not drain the bladder I think it is risky. In select cases where you have a clean bladder it may be safer to avoid draining it. Some of the gentlemen have condemned suprapubic prostatectomies. I have probably done as many as anybody and I do not get a high death rate. In my last 18 perineal prostatectomies I have lost but one case. I, however, do suprapubic prostatectomy more frequently than perineal prostatectomy.

DR. MUNRO, in closing—I have tried various methods and I believe thoroughly in prostatectomy. It is an operation that has come to stay. At the Boston City Hospital at least 50 of these operations have been done, and the results are growing better all the time. I want Dr. Ochsner to leave Dr. Murphy's operation and go back to the median perineal incision with enucleation. Almost any prostate can be removed in this way, I believe, but you must get your finger in the right layer. If you do so the hypertrophies will pop out. I want to suggest something to Dr. Young, who says that some cases are too sick to stand a prostatectomy. If he will drain them suprapubically for days, or weeks, if necessary, until the kidneys get their balance, he will be able to do a prostatectomy without danger. The perineal or the suprapubic enucleation in suitable cases is so much better than the Bottini, from the point of view of the general surgeon, that I am sure the latter will eventually become an operation of the past.

TRAUMATIC RUPTURE OF THE ABDOMINAL VISCERA WITHOUT EXTERNAL SIGNS OF INJURY.*

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My object in selecting the above subject for this year's meeting of the Association is to call the attention not only of surgeons, but also of the general practitioner to the necessity of making an early diagnosis and instituting prompt operative treatment in those serious injuries of the abdominal viscera in which there are practically no external signs of trauma. Various terms have been used for this condition, such as contusions of the abdomen, subparietal or subcutaneous injuries of the abdominal viscera or internal injuries. The term I have employed as the title of this paper seems to express the pathologic and clinical conditions better than any of the above.

NEED OF BETTER DIAGNOSIS AND TREATMENT.

It seems rather strange that so little interest, comparatively speaking, has been shown in the diagnosis and treatment of this class of injuries and so much in

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Surgery and Anatomy, and approved for publication by the Executive Committee: Drs. H. O. Walker, A. J. Ochsner and DeForest Willard.

those in which there are external signs, such as gunshot and stab wounds. It is to be greatly deplored that such cases are only too frequently, even at the present day, hastily examined, the diagnosis of internal injuries made and left to take their chances of surviving a peritonitis either from the escape of intestinal contents or infection of an intraperitoneal or retroperitoneal hematoma or of succumbing to a gradually increasing internal hemorrhage within a few hours. Many a life could have been saved which was sacrificed through careless and superficial examinations and diagnosis, or perhaps the lack of courage in performing an exploratory laparotomy at the proper time.

STATISTICS AS TO FREQUENCY.

Various statistics show that these injuries of the abdominal viscera without external signs are almost twice as frequent both in civil and military practice as those due to penetrating violence. Edler in 1885 found that in 362 cases of injuries of the liver 184, or 50 per cent., were without external signs; 116, or 32 per cent., were gunshot; and 62, or 17 per cent., were stab wounds. He also collected 160 cases of injuries of the spleen; 83, or 51 per cent., were due to injuries producing no external signs; 42, or 26.2 per cent., were gunshot; and 35, or 21.8 per cent., were stab wounds. In 152 cases of injuries of the kidney, 90 were without external signs, 50 gunshot and 12 stab wounds. The following tables of Makins (St. Thomas' Hospital, London), and Neumann (Friedrichshain, Berlin), will give an idea of the frequency with which the individual viscera are injured:

MAKINS (89 CASES).

	Cases.	Per Cent.
Kidney	35 or	39.3
Intestine	21 or	23.5
Liver	15 or	16.8
Spleen	10 or	11.2
Bladder	4 or	5.6
Mesentery	3 or	3

NEUMANN (54 CASES).

	Cases.	Per Cent.
Intestine	21 or	38 8
Kidney	16 or	29.6
Liver	6 or	11
Spleen	4 or	7.4
Liver and Spleen	4 or	7.4
Omentum and Uterus		
Spleen and Kidney	2 or	3.7

SURGICAL ANATOMY.

It will be seen that ruptures of the kidney and intestine form over 60 per cent. of the total according to these statistics taken from two different hospitals. This is to be explained partly by the surgical anatomy and partly by the most frequent varieties of trauma which produce these injuries. In regard to the former (surgical anatomy) it may be said that the intestines lie in close contact with the greater portion of the abdominal wall, especially the jejunum and ileum, which are most frequently injured. The duodenum lies very deeply in the abdomen and is fixed at its junction with the jejunum. The ascending and descending colon lie well protected by coils of small intestine. The stomach when empty lies like the duodenum at the back of the abdomen and is little exposed to injury. When distended it is far more so, although the ligaments suspending it will permit of a great range of motion. The kidneys lie well behind all of the other viscera, being separated from them by peritoneum. They are very insecurely suspended, their chief fixed point being at the hilum through the unyielding renal vessels. On the side and behind they are poorly protected by the quadratus lumborum and transversus abdominis muscles and floating ribs. On the inner side they are in close contact with the resistant transverse processes and bodies of the vertebra. The liver and spleen are fairly well protected by the bony thorax. They both lie in close contact with it, being separated in part by the diaphragm and lungs. The spleen has a greater range of motion than the liver on account of the greater length and elasticity of its ligaments. The liver is a more fixed organ, its supports being firmer and shorter. Its large size, friability and greater fixity render the liver especially liable to injury. The pancreas and gall-bladder lie so well protected that they are comparatively infrequently injured. For a similar reason the ureter has often escaped injury when the kidney has been extensively torn. The bladder is covered by peritoneum only in part (fundus and posterior wall), it being to a considerable extent an extraperitoneal viscus. It is very firmly attached to the symphysis pubis so that fractures of the pelvis are frequently complicated by a rupture of the bladder, almost invariably extraperitoneal. The bladder when distended rises out of the pelvis and lies in close contact with the anterior abdominal wall.

MECHANISM OF INJURY.

The manner in which the force acts is either directly or indirectly. In the former case (direct) it is of importance to obtain a history of whether it was a circumscribed (kicks, blows, falls upon objects) or a diffuse force (run over, crushing injuries, etc.). The circumscribed is more likely to rupture hollow viscera like the stomach, intestine or bladder. The diffuse more frequently causes a rupture of the solid viscera like the liver, pancreas, spleen and kidney. There are, of course, exceptions like my spleen case, where a hammer was thrown at a boy's abdomen, rupturing the spleen. In general, however, the above division will be of considerable value in diagnosis. In 20 cases of circumscribed force, 13, or 65 per cent., had perforation of intestine. In 28 cases of diffuse force, 15, or 53 per cent., had intestinal lesions (Neumann). In 33 cases of rupture of the liver treated by laparotomy which I collected, 16 were due to a crushing injury (diffuse force), 9 to a kick or blow (circumscribed force), and in 8 it had occurred after a fall. In 47 cases of rupture of the spleen it was due to a circumscribed force (kick, blow or fall upon some object) in 25, to crushing injuries in 11, and to a fall from a height upon the feet or buttocks in 11. In injury by indirect force the organs most frequently affected are the liver, spleen and kidney. This occurs after falls on the head, buttocks or feet, the organ following the line of action of the force and then in rebounding being torn, as frequently occurs in the case of the liver, at the attachment of its ligaments or as in my cause of traumatic displacement of the kidney from its surrounding connective tissue.

In direct action of force the injury may occur in one of three ways: (*a*) crushing, (*b*) bursting, (*c*) tearing. In the first variety the viscus is crushed between the force and some resistant part of the body (spinal column, pelvis) or an object (a wall, ground, etc.). This is by far the most frequent manner in which the viscera are ruptured. The second variety, that is, bursting, occurs less often than was formerly believed. The organ is distended to its utmost through pressure and then gives way. The third or tearing occurs when the viscus is torn at its point of attachment, for example, rupture of the intestine at the duodeno-jejunal junction, rupture of liver along suspensory ligament, rupture of stomach along lesser curvature.

It is an inexplicable clinical fact that the same amount of force may produce the most serious lesions in one case and none at all in another. This should, however, not give a false security and permit taking too great a chance with an expectant treatment. When

statistics like Makins' (St. Thomas Hospital, 1889-98) show that out of 292 cases of abdominal injuries (without external lesions) of all degrees of severity there were 89 or nearly one-third of ruptures of viscera and Neumann's (Friedrichshain, Berlin) 133 cases with 62 ruptures, and if these are to be given any value, we can never feel justified in treating every case by a waiting plan.

PATHOLOGY.

The pathology differs in the solid and hollow viscera. In the former the following may occur:

(*a*) Subcapsular tears. Here the capsule is not torn.

(*b*) Laceration of the parenchyma with tear of capsule. This may vary from a slight tear to deep ones completely dividing the organ. It may cause portions of the organ to be completely separated or may even reduce it to a mere pulp, especially in the kidney.

(*c*) Rupture of the principal blood vessels of the viscus, resulting in rapid death. In general, if an organ is in a pathologic condition it is more liable to rupture (malarial spleen).

In the hollow viscera, like the stomach, intestine, bladder (gall and urinary), bile vessels and ureter, we may have:

(*a*) Simple contusion of one of the coats, especially the mucous, causing the formation of an ulcer (traumatic gastric ulcer) and leading either to perforation or becoming an atrium of infection (traumatic appendicitis).

(*b*) Perforation immediately after the injury. The seat of perforation is usually at the antemesenteric border in the intestine; it may be a simple tear or a circular perforation (the latter is especially frequent after horse kicks).

Of 219 cases of injury to the alimentary canal, Petry found 172 were in the small intestine, 26 in the large and 21 in the stomach. The wound does not close in the majority of cases because the mucosa prolapses between the edges. Rarely it becomes adherent to the adjacent viscera. In the bladder the tear is usually vertical and through all of the coats. In the intraperitoneal variety, which is by far the most frequent, 183:119 (Rivington), 90:45 (Mitchell-Alexander), the tear is at the fundus or on the posterior wall. The extraperitoneal variety is often complicated by a fracture of the pelvis (in 169 cases collected by Bartels, 109 times), and the situation of the tear varies somewhat with the point of fracture, being most frequent around the neck of the bladder.

COURSE AND SEQUELÆ.

The course of these injuries, if not treated, is as follows:

(*a*) Small tears in the solid viscera may heal without further symptoms.

(*b*) Deeper tears either continue to bleed until the patients die of acute anemia or a clot may close the tear temporarily or permanently. In the former case the bleeding recurs through the dislodgment of the clot from days to weeks after the injury. For permission to publish an example of this termination, I am indebted to Dr. M. L. Harris of Chicago. On Dec. 3, 1900, Mrs. B., aged 20, was thrown violently against some object during an explosion. She was admitted with symptoms of rupture of the liver and although critically ill for a few days, the expectant treatment was continued. She improved so much after the fifth day that she was allowed to sit up on the eleventh day. She was taken with sudden epigastric pain and died in a few minutes. At the autopsy the abdomen was filled with clotted and fluid blood which had escaped from a ragged (1½ inch long) wound of the liver.

In 143 cases of death from rupture of the liver, hemorrhage was the cause in 59 (Mayer-Bryant). But when the bleeding stops permanently the patient is still exposed to danger from infection of the clots through migration of bacteria through the intact intestinal wall in the case of the liver and spleen or in intraperitoneal rupture of the kidney. In addition to the latter, the sequelæ of injury of the kidney are hemorrhage into the perirenal tissues, with subsequent suppuration, blocking of ureter (pyonephrosis or hydronephrosis), chronic nephritis (I observed this in one case 30 years after an injury) or displacement of the kidney. The following case, which occurred in my practice, is an example of the latter. A boy of 14 fell on the buttocks; hematuria for two days, accompanied by severe pain over right lumbar region. The hematuria ceased, but pains over right side of abdomen and a feeling as if something fell inside of him. I saw him on account of the latter symptoms two weeks after the injury and found the right kidney distinctly palpable and displaced downwards. This was verified at subsequent nephropexy. Out of 67 deaths due to rupture of the kidney, collected by Küster, 5 died of shock and collapse, 30 of hemorrhage, 27 of suppuration, 3 of chronic nephritis, and 2 of calculi.

(*c*) In the hollow viscera the possible terminations if not operated on are:

1. In injuries of the gall-bladder and bile vessels, escape into the peritoneal cavity. If, as is usually the case, the bile is aseptic, it simply accumulates or causes an adhesive peritonitis. Usually cholemia or secondary infection causes death. Out of 34 cases collected by Courvoisier 22 died.

2. In the alimentary canal peritonitis develops early after perforation has occurred; it is more likely to be fatal after escape of intestinal than of stomach contents into either the general peritoneal cavity or into the retroperitoneal tissue (ruptures of duodenum). Out of 160 cases of rupture of the small intestine 11 recovered (10 with formation of fecal abscess and one closure of perforation by omentum). The remainder died of septic peritonitis. Of 26 perforations of the stomach 13 recovered spontaneously and 13 died. In the case of the stomach there are a number of cases where an ulcer was formed. In the case of the appendix the development of an abscess, etc., must be due to the formation of an ulcer with subsequent infection. That there is such relation of trauma to appendicitis is now well recognized (Neumann, Korte and Shotmuller) and is illustrated by the following case: About three years ago I was asked by Dr. H. S. Barnard of Chicago to see a case with the following history: A butcher, soon after falling or stumbling against a large block of wood upon which the meat is cut, experienced a sharp pain in right iliac region where he had been struck by the edge of the block. I saw him five days later, and confirmed the diagnosis of appendicitis and at operation found the gangrenous appendix lying almost free in an intraperitoneal abscess cavity.

3. In the three verified cases of rupture of the ureter (Poland, Mackenzie and Morris) there was extravasation of urine around the kidney in two and into the peritoneal cavity in the third.

4. In ruptures of the bladder not operated on the following occurs: In intraperitoneal rupture peritonitis develops on the second or third day. In the extraperitoneal variety there is after about the same lapse of

time an infection of the cellular tissue (perivesical phlegmon). The urine of a normal individual is sterile, but soon after becomes infected through the use of the catheter, which is unavoidable in these cases.

SYMPTOMS AND DIAGNOSIS.

One of the most difficult problems in the first hours after an injury to the abdominal viscera with slight or no external signs, is to determine whether the case is one of simple contusion of the abdominal wall alone or of rupture of one or more of the viscera. It may be said at the beginning of this portion of the subject that there are no truly pathognomonic symptoms. The primary shock may be very severe and all of the early symptoms point to a serious injury, and yet they may gradually pass away. On the other hand, one meets occasionally with cases which begin in an apparently mild manner, and yet inside of 24 to 48 hours the most grave symptoms may appear and intervention be of no avail. It is just this deceptive character of the symptoms which has so greatly retarded the general knowledge of these conditions. It has caused many a surgeon or general practitioner who erred on one side or the other to hesitate to intervene.

There are certain cases in which, in the early hours, it will be almost impossible to make the distinction. There are, however, a large number of cases in which a careful analysis of the symptoms will enable one to arrive at a definite diagnosis sufficiently early to be of aid in the treatment. There are four possible conditions in which we find the patients:

1. Marked primary shock symptoms from which the patient never recovers, death ensuing in a short time after the injury.

2. Marked primary shock symptoms which pass imperceptibly into those of internal hemorrhage, either terminating fatally within a few minutes to hours, or continuing and giving rise to local signs of injury.

3. Marked primary shock symptoms, which gradually clear without any local sign of injury having developed.

4. Cases in which there are practically no signs of shock or only very slight at first, but in which local signs of peritonitis or of injury to one of the solid viscera appear, within a few hours, accompanied by general symptoms of internal hemorrhage. If in any case the primary shock symptoms have passed off and the patient's condition does not improve in spite of stimulants, etc., and especially if the local signs of injury to be mentioned below appear, there must be an injury to one of the viscera.

A thorough knowledge of the mechanism and pathology of abdominal injuries is absolutely necessary in order to interpret the symptoms. In addition to the above general symptoms of shock and internal hemorrhage there are certain valuable local signs. A convenient division of these is that first proposed by Eichel, into:

1. Those cases in which symptoms of injury of the alimentary canal predominate.

2. Those in which symptoms of injury of the genito-urinary system predominate.

3. Those in which the signs of internal hemorrhage predominate.

At the bedside one often meets with combinations of these, but the grouping is of considerable interest in studying the symptoms and attempting to make a diagnosis of the particular organ injured. An accurate history should be obtained in every case of the exact manner in which the injury occurred. It assists greatly in conjunction with the local symptoms in making a diagnosis. Only a small proportion of the cases show a superficial bruise, and one should not place too much stress on their presence, since the injury may be on the opposite side of the abdomen. The only exception is in the case of the intestinal injury, where the point of impact, as indicated by a superficial mark, often corresponds to the seat of injury. Makins found this to be true in nine cases.

The symptoms of injury to the alimentary canal are:

1. Pain, frequently well localized, more often diffuse. Constant and very severe, as a rule.

2. Tenderness, localized, corresponding to the seat of injury.

3. Vomiting, if from injury to stomach is bloody, if due to small intestine is frequently bilious. If so and present early, it is of great value in diagnosis of an injury.

4. Rigidity of the abdominal wall. According to some, pathognomonic of injury (Trendelenburg). According to Thomen, present in only 6 out of 20 cases. Of some confirmatory, but not to be regarded as of pathognomonic value.

5. Pulse usually above 100. Temperature of little value.

6. A fixed area of dulness. If it accompanies above signs, it is of value.

7. Symptoms of peritonitis appear within a few hours in cases of intestinal, but later in stomach perforation.

8. History of violent blow on front of abdomen, especially if applied over small area, less frequently one of crushing injury.

9. General symptoms of shock vary greatly.

The symptoms of injury of the genito-urinary system are:

1. Pain, as a rule in lumbar region, if injury to kidney or ureter. Of a boring character. Radiates down along ureter into testicle. If an injury to bladder pain referred to lower part of abdomen.

2. Tenderness over kidney (lumbar) region on pressure or over bladder.

3. Deep-seated hemorrhage in subcutaneous tissue around kidney.

4. Hematuria. May denote only simple contusion or grave injury. Latter if it persists. If the injury to the kidney has resulted in a tear of the ureter or a tear of the peritoneum there will be no hematuria, only symptoms of internal hemorrhage. Such may rapidly lead to death. In bladder injuries only slight amount of blood in urine, but have constantly a desire to urinate without being able to do so.

5. In renal or ureter injuries, sooner or later, formation of a tumor. Present in 12 out of 26 cases (Morris).

6. Oliguria or even complete reflex anuria.

7. Later symptoms. Perinephritic suppuration, hydronephrosis or pyonephrosis, chronic nephritis.

8. Evidences of displacement of kidney.

9. In bladder injuries, if intraperitoneal, within one or two days symptoms of peritonitis. In extraperitoneal tears evidences of dulness above the pubes fixed or bulging toward rectum at base of the bladder. Later, signs of pus around bladder.

10. Catheter can be introduced easily in rupture of kidney and get considerable blood. In rupture of bladder can pass catheter easily, but obtain only small amount of blood. In rupture of urethra can not catheterize; blood passes spontaneously. Injection test for rupture of bladder of little value.

11. Much shock in kidney injuries, as a rule, but little in bladder.

12. History of fall or blow on loins in kidney, or a kick over the pubes or crushing injury across pelvis in bladder, injuries.

Cases in which symptoms of internal hemorrhage predominate will be found more or less characteristic of ruptures of the liver or spleen or of the intraperitoneal ruptures of the kidney (see above).

1. Pain over the splenic region and localized tenderness in injuries of the spleen; same over the right hypochondriac region radiating to the shoulder in those of the liver.

2. Evidences of dulness in flanks, changing with position and over the lower part of the abdomen.

3. Symptoms of shock mixed with those of anemia.

4. Frequent accompanying fractures of ribs.

5. Symptoms of peritoneal irritation (rigidity of abdominal wall).

6. Icterus, when present, is of great value.

Injuries of gall-bladder and pancreas have no characteristic symptoms. Escaped bile will occasionally cause peritonitis. Injuries of pancreas cause shock and localized pain over epigastrium. Late results are formation of cysts.

The following cases will serve to illustrate the above three groups. For permission to publish those which did not occur in my own practice I am indebted to my colleagues, Drs. Halstead, Van Hook and Leeming of the Cook County Hospital.

Alimentary Canal.—(Dr. Halstead's case.) Boy of 14, while riding bicycle ran into tree, handle striking him in abdomen. Seen 6 hours later, vomiting, tympanites, rapid pulse, tenderness diffuse, especially over right side. Laparotomy. Sutured perforated colon ascendens. Recovery.

Genito-Urinary System.—Fracture of spine and rupture of kidney. (Dr. Van Hook's case.) While stooping, weight of elevator cage came down on back. Unconscious for ten minutes. Unable to use legs. Entered with great pain in back and abdomen. Rounded tender mass in left lumbar region. Urine contains much blood. Nephrotomy (Dr. Halstead.) Laceration of lower half of kidney (left). Tamponed. Recovery.

Intraperitoneal Rupture of Kidney.—(Dr. Halstead's case.) Male of 27 run over by wagon. Severe pain in right umbilical region. No hematuria. No vomiting. No external signs of injury. Immediate laparotomy on account of symptoms of internal hemorrhage. Much free blood in peritoneal cavity. Lumbar incision showed large hematoma around right kidney and rupture of same. All clots removed. Tamponed. Recovery.

Extra-Peritoneal Rupture of Bladder.—(Author's case.) Boy of 5 run over by car passing across pelvis. Seen 26 hours after injury. Dulness from umbilicus to anterior superior spine of ilium on each side; can not catheterize. Injection test deceives. Few drops of bloody urine. Suprapubic incision. Bladder wound sutured. Pelvic drain around bladder of gauze. Traumatic rupture of urethra treated by perineal section. Fracture of pubes. Recovery.

Rupture of Spleen.—(Illustrating group in which internal hemorrhage symptoms predominate. Author's case.) Boy of 16 had monkey-wrench thrown at splenic region. Signs of primary shock lasted ten minutes, followed by those of increasing anemia and peritoneal irritation. Tympanites, no vomiting. Anemic, pulse rapid and soft. Dulness in flanks and lower half of abdomen changing with change of position. Abdomen uniformly rigid and tender, especially left of umbilicus. Laparotomy ten hours after injury. Large amount of intraperitoneal hemorrhage, clotted and fluid. Rupture of spleen near lower pole. Splenectomy. Death on third day of anemia and septic peritonitis. At time of operation also found tear of omentum.

Rupture of Liver.—(Dr. Leeming.) Man caught between wall and wagon, crushing body across the abdomen, causing pain in epigastrium, tenderness, rigid abdominal walls and some tympany. Restless and anemic. Laparotomy on fourth day. Much bloody fluid free in peritoneal cavity. Large tear in liver. Tear sutured. Diet two days later.

The above cases illustrate all of the different modes of injury except a fall which produced rupture of the abdominal viscera without external signs. They also show the necessity of early diagnosis and prompt operative treatment.

(The conclusion of Dr. Eisendrath's paper next week will be followed by Dr. Coffey's paper and the discussion on both.)

PRINCIPLES CONTROLLING OPERATIVE INTERFERENCE IN HETEROPHORIA.*

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Nothing is more gratifying and satisfactory to the student than to group together certain phenomena of constant occurrence and, by the synthetic method, make a generalization that will be applicable to all cases that present these phenomena. A generalization is a very comfortable instrument of thought, and like mechanical devices it is a saver of time and of a multitude of pains. But the task that has been allotted to me deals with conditions so complex, and is fraught with so many difficulties, that to lay down any set of principles that will govern, without many exceptions in the multitude of varieties under which these interesting anomalies present themselves, is next to impossible. No generalization that I know of fits the condition. We are, therefore, constrained to apply such knowledge as we have gathered by personal observation and experience to the particular case under consideration. As corroborating testimony to this statement may be adduced the widely different views set forth in the numerous contributions to the literature on this subject, which have been published in the last ten or twelve years. Who, after reading these articles, is not possessed with a feeling of despondency akin to that of Tantalus in his discouraging labors? The only conclusion to be drawn is either that all roads lead to Rome, or that some of us have mistaken the city. From those who find in tenotomy the only cure for heterophoria, to those who claim that any surgical interference is bad, there is a broad field where many shades of opinion grow and flourish.

In view of this diversity of honest opinion and considering the difficulty inherent in the subject, it would be an act of temerity on my part to attempt to lay down any set rules or principles governing the operative treatment of heterophoria. I will, therefore, limit myself to setting down those principles that have guided me in treatment of these anomalies and on which the experience of the last twelve years has made but slight modifications. I might as well state at the onset that my rule is never to operate until all non-surgical procedures have failed. If it is deemed that considering the title of this paper I dwell at unnecessary length on the non-operative methods of treatment, be it remembered that upon a distinct and definite recognition and appreciation of existing conditions on the one side, and of the effects of the non-operative treatment on the other, depend the conclusions upon which are based the principles that govern in the operative interference.

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* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Ophthalmology, and approved for publication by the Executive Committee: Drs. Frank Allport, H. V. Würdemann and J. A. Lippincott.

THE PATIENT'S HISTORY.

Careful inquiry into the patient's antecedents, history and habits and general condition should be the starting point of the examination. Neurotic antecedents should be carefully noted and hysterical tendencies, if existent, should be carefully recorded. The condition of other organs should receive attention, whether the patient has been afflicted recently with exhausting diseases or with diseases liable to affect the ocular innervation. Nervous prostration is an important factor, and the effects of la grippe on the eye muscles, especially the interni, has impressed me very strongly. Acquired exophoria I have frequently seen concomitant with and persisting after an attack of grippe. That the anomaly was caused by the disease I have been able to demonstrate in a number of instances in which the eyes had been examined for other ocular disturbances, and the muscular balance recorded as normal. The manner in which the eyes are used, both as to time and light, habitual position of books or work, should be ascertained. The conjunctiva should be carefully inspected, to eliminate conjunctival asthenopia. The ophthalmoscope should reveal any intra-ocular disturbances.

EXCLUSION OF ERRORS OF REFRACTION.

The examination for errors of refraction should be exhaustive, and the test glasses should be the method exclusively relied on. In all cases the muscular balance should be tested previous to correction, both for distance and in accommodation. If heterophoria is detected, the muscular power should be tested at the same time. In simple lateral deviations, especially where distant and near points are not in harmony, the laws governing the relative range of accommodation and convergence should be carefully considered. Examination under full mydriasis should be made in all cases under 45. Atropin to be used up to 35, and homatropin to 45. If ametropia or anisometropia exist, full correction should be ordered and used for a period of at least three or four weeks, during which period the balance and muscular power should be repeatedly tested. This period is of the utmost importance, for the results obtained are the data that determine the future management of the case. Without it no accurate knowledge can be obtained regarding the tendencies of the muscles under the altered conditions, and any operative interference where these changes are not taken into account is, to put it mildly, injudicious. It is more than probable that quite a percentage of the unsatisfactory results of operation are due to a mistaken zeal for operating before the correction of the ametropia has had a chance to manifest its results.

Close observation during this period will also enable us to determine whether the defect is due to muscular predominance or to weakness of the antagonist. By this is meant that it does not necessarily follow that an eye is deviated toward the preponderant muscle. As illustration, take a case with adduction 20 and abduction equal to 8, the externi are normal, the interni weak. Yet in this case there was esophoria of 2° for distance and exophoria of 5° for near. (No hyperphoria could be detected.) Close attention to these details will not only reveal some most interesting anomalies, but will indicate the way to relieve the distressing symptoms frequently associated with them. This period will also frequently reveal the fact that the asthenopic symptoms were not caused by the heterophoria, and that the readjustment of convergence and accommodation under proper ametropia correction is all sufficient. Where the symptoms are due to heterophoria and improvement is noted, the prism exercises and electric treatment should be pushed without hesitation. A cure will be secured in the vast majority of cases by this method. But a minority remains; it must be considered, and cured if possible. Operation is usually effectual, and when properly performed is free from the dangers frequently imputed to it.

Hyperphoria is not only the most fruitful source of asthenopia, but a decided disturber of lateral balance; it is further distinguished by being the most difficult form of heterophoria to reach by orthoptic exercises. When it is due, as it is in many instances, to ametropia, proper correction may promptly do away with the symptoms and eventually with the defect. Considerable relief is experienced by correcting prisms, in some instances, but where the degree is more than 2° or 3°, and not marked enough to interfere with binocular vision, and have the patient suppress the image of one eye, I have found that a carefully performed graduated tenotomy will, as a rule, cure the defect. One whose valuable contributions to the literature on this subject I have always read with much interest and profit, in criticising the operative treatment of heterophoria, reported a case illustrating the dire effects of tenotomy for hyperphoria—a case of overeffect of 9°—a flat failure where the last condition of the man was worse than the first. But is it fair to judge of an operative procedure by such a gross overcorrection? No valuable conclusions can be drawn from the recital of one case, but as illustration of the beneficial effects of a tenotomy, and as a companion piece for the above picture referred to, I will report one from my rather scanty list of graduated tenotomies:

Case 1.—H. S., aged 19, was brought to me in the spring of 1892. He gave the following interesting history: Student in Yale; always enjoyed good health; family history negative; no bad habits, training then for tennis; contracted measles, which ran a regular course, but left him very debilitated and with a persistent cough; consulted New York physician, who advised him to go south and rest; improved; returned to college, but found that he could not use his eyes and began to suffer with severe pains in his legs and extreme exhaustion on the slightest exertion. A neurologist, after careful examination, informed him that there was nothing organically wrong, and advised him to give up his college course and return to his home. He consulted Dr. McClelland, U. S. A., who referred him to me. He had been doing nothing for four months when I saw him. He complained of severe headache if he attempted to use his eyes, in addition to the pains in his legs, and the terrible feeling of exhaustion. The ophthalmoscope revealed nothing abnormal. Examination under full mydriasis revealed: Anisometropia R. H. 0.50, L. E. Hast. .050 ax. 105. V. 20/20=R. Hyp. 3. Abd. & Add. normal. Prescribed full correction of anisometropia for constant use: no relief; orthoptic exercises and electrical treatment daily: no improvement. In three weeks the hyperphoria has increased to 4 degrees. I gave partially correcting prisms with slight relief, but after three weeks there was no further improvement. Melancholia set in and it was impossible to rouse his interest in anything. July 28 I performed graduated tenotomy of R. superior rectus to Hyp. 1 degree. In one week all the symptoms had entirely disappeared, and September 2 he reported that he had continued perfectly well. R. Hyp. 1 degree. He returned to college, graduated and is now engaged in active business, with no return of the trouble.

Esophoria is, in my experience, one of the most trying and perplexing forms of heterophoria. When the degree of deviation is small it is usually not productive of any particular discomfort. When induced by hypermetropia ready relief is afforded by full correction. When the esophoria is symptom-producing in spite of total cor-

rection of ametropia, the problem becomes complicated and particularly so when the abduction power is normal. The relative range of accommodation and convergence plays in these cases a most important rôle, and he who at the near point can not disassociate sufficiently his accommodation from his convergence, whose negative range of accommodation is too short, is in trouble. Overcorrection of hypermetropia in young patients has not yielded very good results in my hands. Prism gymnastics, to be done always at the 20-foot distance, will increase the abducting power, and if the interni are not standard they should come in for a share of the exercise. If in simple uncomplicated esophoria these methods should not give relief, graduated tenotomy is indicated. When there is slight esophoria for distance and exophoria in accommodation, and there is no hyperphoria, the case should be treated as a case of exophoria. In advising an operation for esophoria the patient should be warned that the trouble may recur.

By the term exophoria is meant a divergence of the visual lines, both for distance and for the near point, usually accompanied by a preponderance of the externi over the interni. It is in our artificial city life, where most of the daily work is at the near point, one of the most common of the muscle anomalies, and it is unquestionably an acquired difficulty in many instances. I refer to cases of uncomplicated exophoria. The term insufficiency of the interni seems to have fallen into disuse in the last few years, but I know of no other that better fits many of the cases that we are called on to treat. Those cases in which for distance there is either orthophoria or slight esophoria, and for the near point exophoria exists, no hyperphoria to complicate the tendencies, are simply cases of internal insufficiency. I do not agree with those that hold that orthophoria for distance is a disease. I have taken particular pains to test my orthophoric patients for their near point, and seldom exophoria was detected. This form of heterophoria is the most amenable to prism exercises, and it is seldom that an uncomplicated case does not yield to these methods. But occasionally we encounter cases, especially where there is a marked preponderance of the externi that will not yield to non-operative methods. Operative interference is then indicated and usually gives excellent results. No form of heterophoria requires more patient attention to details, and operative interference should be resorted to only after most careful and persistent attention to the muscle powers. Experience teaches that many cases in which a marked exophoria exists for distance, 4″ or more increased for the near point to perhaps twice the amount are cured by persistent adduction exercises with strong prisms. A certain percentage, however, is not cured by this method, and is cured by operation. What the particular characteristic or element is that renders one case amenable to treatment and another not (I am speaking of uncomplicated cases of true exophoria) eludes me; but the bizarre contradictions of muscle imbalance are ever a prolific source of surprises and disappointments, and I imagine always will be. The following is a case in point:

CASE 2.—Miss B. W., aged 23, was brought to me in November, 1890, for the relief of intense headaches, which made their appearance two years previously. She had never been able to use her eyes with comfort for close work, but for the past year not only is she unable to read and sew, but vision at a distance, theater, lectures, etc., brings on the most excruciating pain. The patient is a well-nourished, apparently strong young woman, but the constant pain in her head and back oblige her to sit most of the time with her eyes closed and her head rested in her hand. There is a history of nervous prostration and also history of having her field of vision become narrowed to a point and then vision was lost for a moment, to return anon to a normal condition; no other history of hysteria; father and mother are strong and healthy.

The eyes present nothing abnormal externally or by ophthalmoscopic examination. V.=20/20, with .025 ax. 180 for each eye. Sees better. Hy. O. Ex 2/4 Abd. 7, Add. 18. Under atropin R. & L. +.050+.025, 180, 20/20. I prescribed these glasses, gave iron, quinin and strychnin and began exercises with prisms and electric treatment. I informed the parents that I felt confident that this treatment would bring about the desired result, but if it did not, an operation might be indicated. Parents stated that under no circumstances would they consent to an operation. Feb. 18, 1891, Ex. 4, Abd. 10, Add. 25. (The exercises were done with prisms, base out. I could not get beyond 25 degrees.) The pain continues, electric treatment gives temporary relief, and 1 degree, base in, made reading somwhat more comfortable. March 10, pain continues, Ex. O, 5, Abd. 10 degrees, Add. 25. At the patient's request, on April 8, I made a graduated tenotomy of the R. Ex. Rectus, and reduced the Ex. to 2 degrees. In five days Ex. O. 1, Add. 45, Abd. Headaches have entirely ceased. Ten days afterward she claimed to be entirely recovered and has remained perfectly well up to date.

COMPLICATIONS.

In the consideration of the three muscular anomalies hitherto discussed, I have purposely avoided mentioning the mixed forms. When hyperphoria of any considerable degree complicates either esophoria or exophoria, the question assumes an entirely different phase, and the greatest care is required to determine the actual cause of the asthenopic symptoms. Unless the lateral heterophoria is very pronounced and the muscle power very much out of balance, either through preponderance on one side or weakness on the other, the vertical imbalance should be suspected as the cause of the lateral defect, and the efforts for correction should be directed mainly to this point; not so exclusively, however, as to lose sight of the other anomaly, but bearing in mind that relief from the hyperphoria may entirely do away with the lateral disturbance, and will at least very much simplify the proposition. The same principles should govern in these cases. If operation is deemed necessary, it should be made for the relief of the hyperphoria. The remaining lateral imbalance should then be treated as simple exophoria or esophoria.

THE GRADUATED TENOTOMY.

The operation that I have found best suited for the different forms of heterophoria is the graduated tenotomy, described by Dr. George Stevens, and the instruments best adapted for its accomplishment are those devised by him. The operation should be performed with full antiseptic precautions and under local anesthesia (cocain). I have never attempted a graduated tenotomy under general anesthesia. I operate in my office so that I am able to control the effect by subjective tests. The technic of the operation differs in no way from that described by the different writers on this subject. With the speculum in place, holding the lids well apart, the patient looking in the direction opposite to that of the muscle to be cut, the conjunctiva and the capsule are seized with the forceps, and a small opening made, exposing the insertion of the tendon in its central part, the tendon is grasped with the forceps, and its insertion to the sclerotic severed at the central portion. From this point the tendon is severed equally in both directions. The patient is then to sit up, the Maddox rod is placed before the operated eye, and a test made to ascertain what effect has been produced. With this test as a guide,

the operation is continued until in the judgment of the operator another test should be made. If the result is satisfactory, the speculum is removed, the eye irrigated with a saturated solution of boracic acid and a light bandage applied.

Contrary to what I gather is the accepted rule; I never aim to overstep parallelism, but rather stop short of it about one degree and trust to subsequent stretching by prism exercises to bring about the desired result. In lateral deviations one-half of the total amount is sufficient, leaving the residue for a future operation on the other eye. The advice given in one of the most popular text-books, to perform a full tenotomy, and if excessive effect is produced, to bring forward the tendon with sutures, I consider dangerous. The very small conjunctival opening recommended by some operators, in my opinion, does not only lack advantages, but complicates the operation by not allowing free drainage for the blood, which accumulates under the conjunctiva, and by enlarging that portion of the eye is apt to change its position somewhat, and thus render it difficult to accurately estimate the effect of the operation. The patient should be seen the day following the operation and subjective test made. If more effect is desirable gentle stretching by the use of prisms is to be done. No bandaging is necessary after the first day, except in the open air.

But there is still a remnant, not a very large one, fortunately. But we hear from it more than the other ninety and nine. Who has not met with these trials in his experience and been driven to the verge of despair? Glasses, prisms, electricity operations, all fail to make those eyes agree to work together in peace and harmony. Woe unto the man who starts on an operation expedition with them. The bourne will never be reached, for in the words of one who was a poet and not an oculist:

I've seen them crossed at every angle,
Acute, obtuse and right.
I've seen them lose in a hopeless tangle
Their kinky lines of sight.
But the genuine spiral cross has never
Before been submitted to me,
I've heard of it, read of it, dreamed of it ever,
And now, ye gods, I see.

SUMMARY.

Study your patient thoroughly. Eliminate all extraneous causes. Correct ametropia and anisometropia. It may be all that is required. If not, strengthen the weaker muscle. Give these methods a fair trial. If in doubt, *do not operate*. If you decide to operate, use your scissors with care and with brains.

34 Washington Street.

THE PRINCIPLES CONTROLLING THE NON-OPERATIVE INTERFERENCE IN HETEROPHORIA.*

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The question involved in the principles controlling the non-operative interference in heterophoria is so complex and comprehensive that it would naturally be the subject for many papers, and an attempt to cover it all would be a disappointment and an impossibility in the limited time allowed. I need not tell this audience of the innumerable possibilities which may occur in a pair of eyes with their extrinsic and intrinsic muscles out of gear, of the influence of age, temperament, health, mental and physical development, of the influences of domestic and business environment, and of the often vicious effects of school life, of the inexorable law of heredity or of the inherent weakness of the ocular muscles, of the numerous and complicated anomalies of refraction, of the influence of bad light and too much light, of the influence of the various trades and occupations—I need not tell you of these things, nor of many other considerations which naturally come to mind in considering this broad subject. In fact, heterophoria covers everything we are fighting to smooth down, abate and correct by general and local treatment and by mechanical appliances and operative measures.

In considering the subject of heterophoria we can not ignore the aggravating inconsistencies of comfortable ametropic eyes as well as of uncomfortable ametropic eyes. Consider for a moment the fact that the majority of all persons have some ametropia, and yet they go through life without knowing it or suffering from asthenopia. Persons with muscular anomalies are also quite as common, esophoria, exophoria, hyperphoria, and yet they work and read and write unconscious of their defects. Hyperopia often exists but is not known until presbyopia comes on, and yet during youth and school life and adult life no complaint was made of the eyes. On the other hand, how slight are the anomalies of refraction which cause great discomfort. Hyperphoria of two or three degrees interferes with comfortable use of the eyes. Hyperopia of even 0.25 is a source of trouble. Slight disturbances of muscular balance cause distress and interfere with school and mechanical work. Why do these inconsistencies exist? Are the eyes and their muscles responsible for all this distress, or is there something behind them in the make-up of the individual? To this we may say yes and no. We all see cases of low degrees of hyperopia in nervous children where the discomfort disappears after wearing glasses a while. The hyperopia still exists, but the need for them has passed. A change has come about in the child which enables him to dispense with the artificial aids. I tell parents that in some cases glasses are like crutches to the lame, only to be worn while the necessity exists.

What is this something—this factor which causes slight muscular and optical errors to assume such importance? In the study of this factor will we find the underlying, dominating influence which will guide us in the successful treatment of these ever-present cases. It seems quite clear that there is a reciprocal influence of the eyes on the system and the system on the eyes. Both sides of this problem have to be studied. In many of the optical and muscular errors it can be plainly demonstrated that the eyes both directly and indirectly affect the general health. Nausea, anorexia, headache, indigestion, malaise and even mild cases of chorea are promptly relieved by properly adjusted lenses. On the other hand, anemia, impoverished blood, weak digestion and poor assimilation, neurasthenia, hysteria, uterine disturbances and many forms of disease undoubtedly affect the eyes. In studying the principles which will guide us in the treatment of these cases we will find that it requires sometimes a simple and sometimes a composite treatment. It may be mechanical, therapeutic, surgical or hygienic. One or more of these methods may be necessary to guide the case safely over the rough waters which seem to surround many of them. We must necessarily study the case from various standpoints and appropriate such remedies or treatment as may be best suited to the special conditions under consideration.

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Ophthalmology, and approved for publication by the Executive Committee: Drs. Frank Allport, H. V. Würdemann and J. A. Lippincott.

The task assigned me is so broad I will, with your permission, pass over the hyperphorias and consider briefly esophoria and exophoria, with special reference to the latter. The conditions we have most frequently to contend with are esophoria and exophoria. Let us for a moment contrast the two. In the higher degrees of esophoria there is a vicious contest for supremacy on the part of the interni. It is the ins against the outs; it is brother against brother. When they should pull together in harmony the interni persistently do all they can to discommode the externi and bring discomfort on the unfortunate owner of the contending eyes. They carry on this contest year after year until the proper lenses are adjusted. In esophoria there is a natural tendency in the eyes, when the ametropia is corrected, to return to a normal muscular balance. When the strain on the accommodation and convergence is relieved the eyes are generally comfortable. Even in esotropia under correcting lenses the interni in time forget their vicious habit of converging and give up the fight and allow the eyes to assume a normal parallelism. Long years ago have we ceased to operate early on cases of squint, and why? It is because we have learned that it is sometimes corrected spontaneously without glasses, and even very high degrees of strabismus can be corrected with the aid of glasses if the parents of the child are willing to allow time enough. It takes years to do this, but the final result is far better than surgery could have accomplished. In exophoria the conditions are quite in contrast. The interni, weak and irresponsive, allow the eyes to diverge. Only under stimulation do they bring the eyes parallel, and then only to relax at once when the nervous stimulus ceases. In severe cases there is inability to produce binocular vision except under great muscular effort. This is not agreeable and hence the eyes naturally seek a position of rest, which is that of divergence. The correction of the ametropia steadies the eyes and aids very much in restoration of normal muscular balance. In the higher degrees, however, something more is necessary; we must resort to measures to stimulate the interni. The first and most important measure for relief is the correction of the ametropia. This should be done under the influence of a cycloplegiac. the muscle strength should be carefully measured and suitable lenses, combined or not with prisms, prescribed.

I have just said that the correction of the ametropia is the most important measure for the relief of the asthenopia. Of equal importance is the consideration of the physical condition of the patient. Especially is this the case with regard to boys nearing the age of puberty and girls approaching the menstrual period, when headaches, anorexia, nausea and other symptoms prevent them from performing their often too exacting duties at school. The physical discomfort is out of all proportion to the optical or muscular error, and yet the suffering is none the less real. I recall a typical case which I treated several years ago, of a girl of 13, with moderate astigmatism and esophoria. who suffered severely from asthenopia and was quite incapacitated for school work. The menstrual function was not yet established, and she was suffering from the constitutional disturbances incident to that period. Her father, who was a warm professional friend of mine, was anxious about her delicate condition. I assured him she would recover and advised him to keep her out of school, to absolutely rest her eyes, to let her ride horseback, play athletic games and live out of doors as much as possible. The recovery came in a few months and was complete, but it was not the correction of the astigmatism alone that cured her. Rest for the eyes is often quite as important as the adjustment of the lenses. The latter alone will not accomplish the desired end. The eye muscles, intrinsic and extrinsic, require rest and time to recuperate.

A year ago Dr. Gould told this section that "no finer problem or more complex one exists in medicine than this of prescribing glasses in exophoria." The condition is one which requires constant care and more personal attention than other anomalies. With esophoria corrected and the relations between convergence and accommodation adjusted, the ceaseless motions of the eyes during working hours do the rest. Esophoria becomes orthophoria.

While it is true that slight degrees of exophoria do the same under the steadying influence of correcting lenses, yet in the higher degrees something more must be done. The lax interni must be stimulated by the use of prisms, and this must be kept up until there is a restoration of the normal balance in the muscles. It has been my practice in these cases to order weak prisms, 1 or 2 degrees, bases out, for constant use. If astigmatism or hyperopia exist they are corrected and combined with the prisms. In addition to this, prism exercise is begun and carried out daily, the seances lasting about five minutes three or four times a day. For this purpose prisms of 10 or 15 degrees are ordered. I direct the patient to look at a candle which is placed on a table or bracket so that the flame is about on a level with the eyes or slightly below. Then the patient approaches the candle until he can see singly through the prisms. He then walks backward until he sees double; then comes forward until he has single vision, and then again walks backward. Then I instruct him to look to the right or left and back to the candle. If he sees double he again approaches the candle and then retreats. In this way power to fuse the images at a longer distance is gained. Having the candle fixed and the patient free to move at will is much preferable to the gradual withdrawing of the candle while he sits or stands. I can better illustrate what I am to say by a typical case. Two years ago I began treating a pale-faced, delicate boy of 13, whose general appearance showed him to be badly nourished. He had severe headaches and could not read even five minutes. He had diplopia for the distance, but it was not so annoying for the near. Vision perfect in each eye with + cyl. 0.5. He had ex. 11 degrees with adduction of only 4 degrees. He was ordered + cyls. 0.5 ⌒ prisms 1 degree, bases out for constant use and prisms 15 degrees in frames for exercise. In a short time the diplopia disappeared, his general health improved from his out-door life, and in less than a year he had practically orthophoria for near, and for the past year has studied without interruption from his eyes. The improvement of his health, the constant use of the prisms and daily prism exercise brought about the desired end.

In contrast with this case, a healthy, well-developed boy of 12 has had annoying asthenopia for two years. R. E. Em. L. H., 0.75 V. = 1. There is Ex. 18 degrees, add. 6 degrees. He was ordered prisms 1 degree, bases out, for constant use, and 15 degree prisms for exercise. Six months later he had add. 20 degrees, and the asthenopic symptoms were practically gone. He still continued the use of the prisms for exercise, but dispensed with them for constant use. For a year past he has had no trouble in studying.

Let us take one more advanced in years. Mrs. P., 33, had exophoria 10, add. 8, abd. 12, with H. 0.5

each eye, V. = 1. When first seen in 1893 she was wearing a pair of prisms 2 degrees, bases in, prescribed for her a few months before. They gave her no relief, in fact, made her worse. I then reversed the prisms, placing them bases out. Her condition began to improve, and two years later she had orthophoria. Here was a case for surgical interference, but excellent results followed the use of the prisms. Since then her presbyopia has been corrected from time to time, but she has comfortable eyes. It was exophoria of nervous origin.

Miss ——, 35, suffering for months past with asthenopic symptoms, headaches and neurasthenia. There is Ex. 20, add. 5. Has diplopia for near and distance. Reads with one eye at a time by holding the other one closed. Refraction is M. 3, 5 ⌒ — cyl. 0.5 R. and L. with perfect vision. It was a tempting case to operate on, but this measure was declined. Prism exercise was begun and persisted in faithfully at home and at my office. In less than a year orthophoria was restored and the asthenopic symptoms disappeared and have not returned since, now about seven years ago. This might properly be called a case of hysterical exophoria. Had a tenotomy or an advancement been made when the symptoms were at their worst, we can only surmise what her condition would be now that her muscles have regained their normal balance.

I have a delicate girl of 14 under my care who has an enormous exotropia. I can not measure the divergence, nor can I produce diplopia, so great is the inco-ordination of the eyes. Yet the vision of each eye is perfect with + cyl. 0.5. At first she could only converge for a few seconds, now she has gained considerable power. She ought to quit school, but she begs to stay for fear she will drop behind her class. She should live on a farm and do the work of a country girl and leave her books in the city. A year or two there would improve her physically and mentally. Is this a case for operation? I think not. Time and physical development and the exercise of the interni will do much for her. It may take two or three years to cure her, but I think she will come out with comfortable working eyes. Later on, if this treatment is not successful, operative measures can be resorted to at any time.

In 1895 I had a patient, 33 years of age, a very busy man, filling a responsible position in a large manufacturing plant in the south. He was very neurotic and was worked down by long application. He had M. 6 D. in each eye with practically perfect vision. He was suffering from pain in the eyes and blepharospasm. There was Ex. 4 degrees with add. only 6. I tried the effect of prisms and recommended rest and an ocean voyage. Instead he went to a fashionable summer resort and, of course, came home without benefit. He returned to his position and tried to work. In the following year I saw him again and his condition was unchanged. He was nervous, uneasy and restless, and his exophoria was in the same condition. I again recommended absolute rest of the eyes and an ocean voyage. He went to New York and took passage on a sailing vessel for San Francisco, doubled Cape Horn, spending 120 days on the ocean before reaching his destination. He then crossed the continent, called on me on his journey to the south, and reported himself well. It is now six years since he made this trip and he is still at work. This is not a prescription to be given or taken every day, but it did the work, and did it well.

Other cases illustrating other phases of exophoria could be presented but time forbids. In brief, exophoria is manifest in children in feeble and vigorous health and in persons of maturer years. It occurs in persons with myopia and hyperopia and astigmatism. Numerous cases could be recited showing the value of prism exercise in exophoria. It is one of the important factors in restoration of normal muscular balance. I am quite convinced of the value of the constant use of weak prisms, bases out, in these cases. While the prisms do much they can not be relied on for all. The condition of health should be carefully considered, as this is often the foundation of all improvement. Rest from school life should be insisted on in many cases. We give esophorics much time to recover in, often years, before operating. Exophorics are entitled to equal considerations if we can by delay bring about as brilliant and satisfactory results by so doing. Esophoria is active, exophoria is passive; the one requires relaxation, the other stimulation. In esophoria convergence and accommodation act together in excess. In exophoria accommodation and convergence are separated by a hiatus which is supplied by a nervous impulse. It is not the eye muscles alone we have to consider, but the innervation behind them.

(The discussion on the papers of Drs. Gardiner, Ayres, Jackson and Gould will follow the papers of the latter two next week.)

APPENDICITIS FROM A PHYSICIAN'S STANDPOINT.*

JAMES TYSON, M.D.
PHILADELPHIA.

Eleven years have elapsed since the first operation for appendicitis was done for me by an eminent surgeon of Philadelphia. The patient was a lad eleven years of age, who had had at least two previous attacks, and the operation may be said to have been done after recovery from the second attack. It was successful and the boy recovered without a bad symptom. Since then I have lost no opportunity to study the disease from a physician's standpoint and sought to gather some information whose application might save some of the lives which are still unfortunately lost by this disease. In the course of my observation I have noted the following: First, that there occur a certain number of cases so evident and decided that no one questions the propriety of operation. These cases are all characterized by the cardinal symptoms of sudden and severe pain, great tenderness in McBurney's point, the rigidity of the rectus muscle, with or without tumor, with moderate fever and frequent pulse—these symptoms being permanent and uninterrupted until relieved by operation. Second, cases in which the symptoms remain permanent, although with diminished severity, subject to exacerbation, to which the term chronic appendicitis may be applied. Third, cases in which the symptoms abate and disappear, to remain altogether absent in a few cases, but recurring in many often with growing severity until permanently relieved by operation or the victim is carried off by a final fatal attack.

INDICATIONS FOR OPERATION.

The first category of cases requires no further reference, as the propriety of operation is conceded by all. The second category, that of chronic appendicitis with exacerbations, about which there is usually no uncertainty as to diagnosis, should give rise to no doubt as

* Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Practice of Medicine, and approved for publication by the Executive Committee: Drs. Frank Billings, George Dock and J. M. Anders.

to treatment, although I regret to say there are still a few physicians who prefer to jeopardize the lives of their patients by deferring operations which should be done without delay. I do not think it necessary to consume time in giving reasons for this view further than that I have personal knowledge of a sufficient number of cases to justify this conclusion.

On the third category, however, I propose to dwell a little longer. I allude to those cases in which a seeming attack of appendicitis is followed by apparent recovery. At the outset I announced the proposition that in all cases in which the actual and undoubted existence of an appendicitis can be shown, laparotomy should be done and the appendix removed, if the services of a competent surgeon can be secured. In making this announcement I shall probably surprise some of my medical friends, even a few surgeons. But I beg you will note again what I have said—the appendix should be removed in all cases in which the undoubted presence of an appendicitis is established and the services of a competent surgeon can be secured. I emphasize this statement because I believe, first, that the diagnosis of supposed appendicitis wherein operation has found a normal appendix has not been usually well founded, and, second, that a certain amount of reproach has been brought on the operation by incompetent surgeons whose inexperience has led to diagnosis which was thus unfounded and whose technic has been for the same reason defective.

THE NEED OF ACCURATE DIAGNOSIS.

The diagnosis of appendicitis is not always easy. On the other hand, in my experience, it is often very difficult. I will not take up the time of the Section at this hour in pointing out the conditions of a general or differential diagnosis, other than to say that unless such diagnosis is plain to both physician and surgeon, operation should not be done. Not every case of pain and tenderness in the region of McBurney's point is an appendicitis, and, as I have said, it is the operation based on an imperfect diagnosis which finds a normal appendix, which causes men to say, on the one hand, that operation was unnecessary; on the other, that cases of appendicitis get well without operation. I do not deny that appendicitis may get well without operation, but I do say that if the instances to which I have referred are eliminated, the number of recoveries without operation will be greatly reduced, and in some respects the unfortunate event of finding a normal appendix will be much more infrequent. It is true that such an experience is more or less humiliating, and we can hardly blame the conservative physician who has not met many cases of appendicitis for saying: "I do not believe in the operation for appendicitis when the operator finds a normal appendix."

On the other hand, while I admit the possibility of spontaneous recovery from appendicitis, I believe that such cases are so infrequent that when taken in connection with the fact that every single attack of appendicitis predisposes to another and more serious one, and this second fact, that all the classic signs of an appendicitis may disappear and yet the appendicitis remain, I return to the proposition that the appendix in every case of well-founded diagnosis should be removed in order to insure the life of the patient.

AN ILLUSTRATIVE CASE.

In confirmation of this proposition I relate the following case: I was consulted by a lady of forty-six for recurring attacks of hepatic colic. That the painful attacks were due to impacted gallstone is evident, because there were not only the usual symptoms, but calculi had also been found in the stools on several occasions. On Saturday, February 22, Mrs. X. sent for me on account of one of her usual attacks of colic. Before I examined her, however, she said: "I have had a second pain, doctor, lower down." On examination I found an evident hard swelling in the right iliac region, exceedingly tender to touch, as well as actively painful. Appendicitis was at once suspected, but I was so surprised and knew, too, that the family would be so alarmed that I said nothing at the time. At a later visit the same day, however, I announced the fact, and then I learned that she had had at least two similar attacks, one in Paris and another in New York City. She was directed to remain in bed, to have ice continuously applied to the region of the appendix, and to take no food. I also arranged for a consultation with Dr. John B. Deaver for the next morning, but confess to an uncomfortable night, fearing I had put off the consultation too long. Fortunately, at our meeting we found the symptoms had abated, though still evident, and the diagnosis was confirmed. In view of the improvement the same treatment was continued. Each day found the symptoms growing less marked until the morning of Tuesday, March 4, which had been set for a final consultation, prior to operation, there seemed to me to be none remaining. There was no lump, no rigidity, no tenderness to any pressure which I could exert. The patient said that with the pressure made by Dr. Deaver she was just conscious of discomfort. The almost simultaneous remark by both of us on leaving the room was: "Well, this attack is over." The temptation to leave her alone was great. I recalled, however, the two previous attacks, and operation was decided on. It was done two days later, the removal of the appendix being preceded by that of the gall-bladder, which contained 101 gallstones. The appendix was about three inches long and half an inch or more in diameter, nearly cylindrical throughout. It was not adherent except by its normal attachments, but appeared distended. On being cut open it was found filled with white, creamy pus to the amount of at least a dram, probably two drams. The patient made a good recovery and from having been a more or less constant sufferer is enjoying health and life. Whatever doubt I may have had of the propriety of removing an appendix once diseased was removed by the narrow escape of this patient. At almost any time perforation might have occurred, succeeded by a fatal peritonitis.

Again, I was consulted only a few days ago by a young medical friend, who first felt pain in the right iliac region about a year ago. Since then he has been conscious of discomfort in that quarter more or less all the time. Two weeks before he saw me he had an exacerbation, again the day before he saw me and again on the same day. On the occasion of the attack two weeks ago he consulted a medical friend, who declared he had appendicitis, that he could feel the enlarged appendix, and urged immediate operation. When I examined him I could elicit evidence of tenderness at the edge of the rectus slightly above rather than at McBurney's point, but I found no other signs of appendicitis. I sent him to Dr. Deaver, who found a loose kidney at the position indicated, but no appendicitis, and decided that the case did not call for operation. With the hint thus obtained, I was myself able to locate the displaced organ. Thus was an unnecessary operation averted, and I believe many of the operations in

which normal appendices are found are thus imperfectly based.

CONCLUSIONS.

It is such experiences as these which have brought me to the conclusion that every case of appendicitis whose diagnosis is thoroughly established should be operated on, always, if possible, in the interval between attacks. Of the diagnosis, however, we should be reasonably certain. In view of the occasional difficulties of diagnosis, it may happen now and then that a normal appendix is removed. But I have come to the conclusion, too, that it is better to have a few normal appendices removed than that one which ought to have come out should remain and cause the death of its owner. The appendix is not an organ of which we need be especially proud. It is useless and exceedingly vulnerable and without powers of resistance when attacked.

1506 Spruce Street.

DISCUSSION.

DR. CHARLES G. STOCKTON, Buffalo—I can not refrain from saying a word on the subject. I wish to compliment Dr. Tyson on his courage in attempting to classify appendicitis and, perhaps, his classification is as good as can be made. It seems to me that the classifications usually given are altogether inadequate. I agree with Dr. Tyson in his statement that appendicitis should be operated on; I would like to go still further and say that it should be operated on immediately. I disprove of the delay of from twenty-four to forty-eight hours which some surgeons allow. For this delay physicians are often responsible. The danger lies in postponing the operation twenty-four hours. Either operate immediately or else do not operate till late in the interval, is a good rule.

DR. H. H. WITHERSTINE, Rochester, Minn.—I wish to congratulate the author of the paper for the position he has taken relative to appendicitis. To illustrate my ideas in reference to this disease I would like to relate two cases. A few months ago I saw a young lady who was suffering from intense pain in the region of the appendix and who had all the classical symptoms of appendicitis. I recommended an operation at once. When the abdomen was opened it was discovered that she would not have died in that attack; it was a catarrhal condition, not a suppurative one. A few days later I saw a young man who suffered in the same identical way. I also recommended an operation which was done thirty hours after the attack began. The appendix in this case was swollen and contained one or two drams of pus. These two cases were identical; yet the first patient probably would have recovered from that attack without an operation, while the second would surely have died. We have no light at present by which we can determine at the beginning of an attack which case will and which case will not suppurate. Therefore, it is my judgment that every case should be operated on within the first thirty-six hours. If the operation is done thus early practically all the patients will get well. Without rehearsing the differential diagnosis between appendicitis and the diseases for which it may be mistaken, I will say that with a careful examination the diagnosis in appendicitis ought to be reasonably certain. With my experience before me I am strongly impressed that the error of delay is a most serious one.

DR. J. M. ANDERS, Philadelphia—The classification Dr. Tyson has given will serve as a working basis for the general practitioner. Every case in which the diagnosis is clear should be operated on at once. This is a lesson that we have been slow to learn and can not be too strongly emphasized. If there is the slightest doubt as to the diagnosis of appendicitis, and even if we think that we have made only a reasonably certain diagnosis of this affection, we should call to our aid a skilful surgeon. Without advising the family that an immediate operation is demanded we can, and in such instances should, send for a competent surgeon. No matter whether in his judgment an immediate operation should or should not be done you have divided the responsibility and not failed in your duty. If a competent surgeon is not available, in a large class of cases in which the operation is not performed immediately, or in which it can not for any reason be performed immediately, we should employ refined methods of diagnosis. My experience teaches me that when the local symptoms are comparatively mild and yet point to an attack of appendicitis, the blood examination will show a mild leucocytosis. I want to state at the outset that the degree of leucocytosis by no means gives a clear, definite idea of the nature and extent of the pathologic change; in a general way, however, it can be relied on as a guide if the accompanying symptoms are carefully considered. If repeated examinations of the blood be made at short intervals in cases in which suppuration is present there will be found a rapid rise in the leucocyte count; if gangrene occurs the count rises more rapidly still. A notable exception to this rule is met in cases of perforation with associated evidences of generalized peritonitis. In such an instance, however, the associated symptoms will almost always serve as a guide. On the other hand, I have frequently found that a mild leucocytosis may rapidly disappear at the end of a day or two and, after a free purgation, the count will return to the normal. I approve of an operation in cases of relapsing appendicitis. Finally, I hope that the internists, as well as progressive surgeons, will soon learn this lesson; that all cases as stated by Dr. Stockton in which the diagnosis is clear, should be operated on at once and thus decidedly diminish the mortality rate.

DR. TYSON, in closing—In the matter of classification I made no attempt to classify any other except those cases which came under my personal observation and which fell into one or the other of the three divisions. It is simply a working classification and most cases fall into one of these three categories.

With regard to the time of operating, what was stated was based on the idea that surgeons still regard the risk of the operation less when done "in the interval" than during an attack and that, therefore, if an operation can be deferred with safety to the patient until the acute attack is over it is rather better to do so.

THE SURGICAL RELATIONS OF TRAUMATISM OF THE PERIPHERAL NERVES.*

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CHICAGO.

The title of this essay requires some limitation. It is not our purpose to deal with surgical operations on the nerves, nor with resections for the cure of neuralgia, but to consider certain diagnostic relations of the peripheral nerves in the treatment of injuries.

A traumatism of the nerve is frequently overlooked. In an examination of an injured part the surgeon estimates the damage to blood vessels, joints, tendinous and muscular structures, but often fails to take into account the condition of the nerve; hence, a favorable prognosis is not borne out in the subsequent history of the case and the patient is dissatisfied. We have known of several malpractice suits due to a failure to estimate the injury to the nerves. All of these occurred in accidents involving the shoulder, in each case there was a dislocation without fracture, the bones were replaced and the statement was made to the patients that in a few weeks they would recover. The resulting paralysis of the nerve from direct contusion, or from secondary inflammation resulted in a disability which lasted for many months. The prognosis of the surgeon not being borne out by the subsequent history of the case, led to the institution of a suit for malpractice, it being claimed that the surgical attendance was not what it should have been, when, as a matter of fact, it was only the surgeon's prognosis that was at fault.

Late surgery recognizes the general principles in the treatment of the nerves in open wounds; a nerve

* Read before the Dubuque Medical Society, June 30, 1902.

should be sutured if it has been divided. The results of nerve suture, both primary and secondary, are good, the latter nearly as successful as the former, providing too great a time has not elapsed from the time the nerve was severed. Primary union of nerves may take place in the lower animals. In man, at least, every section of a nerve results in degeneration. In the majority of cases, the nerve regenerates, at least in part, and suture favors this regeneration. The bringing together of the nerve sheath forms a sort of bridge that enables Nature to restore the interrupted pathway. The power which nerves have of regenerating is remarkable, and in some instances they are able to bridge a considerable space in the effort to unite the severed portions.

The degeneration of a severed nerve is fully recognized in surgical practice, but it is not so generally known that simple contusion may have the same effect as severing the continuity of a nerve trunk. A contusion may abolish the function of a nerve for a short time, for some hours, but if the function is not restored within a comparatively short time, there may be a degeneration of the nerve the same as though it had been severed. Such degeneration is followed by a regeneration comparable in all respects to that which takes place after section.

A peculiarity of nerve contusion is that it may lead to inflammation, and this, owing to the peculiarities of the structure of a nerve trunk, may result in what is really a pressure paralysis. A nerve trunk is surrounded by a connective tissue sheath from which septa extend into the interior, dividing it into numerous compartments. A nerve trunk of considerable size is made up of a number of bundles, each surrounded by a connective tissue sheath, and from this, smaller trabeculæ support the smallest bundles. This strong fibrous sheath plays an important rôle in the pathology of neuritis. The nerve, like other structures in the body, has its own vascular supply, its lymphatics, and also the special nerve supply which endows a nerve with local sensibility. A contusion often sets up a secondary neuritis; there is a congestion of the nerve, cloudy swelling, edema and distension of the nerve sheath, which is an unyielding connective tissue structure. If the inflammation is of some severity, the swelling compresses the nerve fibers so that we have in addition to the neuritis the phenomena of pressure paralysis.

It might be possible by splitting the nerve sheath to relieve this form of neuritis, just as improvement is obtained by splitting the capsule of the kidney in inflammations of that organ. The practical difficulty is that this neuritis commonly supervenes rapidly, or pressure symptoms are abrupt in their onset, and if they last for a number of hours the nerve will degenerate.

A rupture of a nerve, or its section in an incised wound, is almost always recognized at the time an injury is received. The effect on muscular power is so pronounced that a torn or lacerated nerve will probably be recognized in almost every instance, but the same is not true of contusions. If of sufficient severity to excite a secondary inflammation, the primary symptoms of contusion may be absent, and this is probably the mechanism in the majority of cases. If there is no paralysis at the time the injury is received, it is often concluded by the surgeon that there is no injury to the nerve and that there will not be any. The paralytic phenomena due to neuritis, as well as the symptoms of the latter, are so obscured by the pain and swelling incident to the bone joint and other injuries, that they are overlooked. An additional factor is the fixed dressings that are often necessary in the treatment of dislocations and fractures, by which the paralysis is completely concealed.

It is of some importance to distinguish between the laceration or section of a nerve and simple contusion. We know of no accurate means, aside from actual inspection of the nerve trunk, that enable one to do this immediately after the receipt of an injury, but within five or six hours it is usually possible to do so, as the contused nerve will have regained some power of conduction, even though it ultimately loses that function due to a secondary inflammation. The importance of distinguishing between contusion and laceration relates to the treatment, primary suture being somewhat more successful than secondary, and should be employed. Mere contusion of a nerve, no matter how severe the subsequent neuritis, can never be aided by an operation, as the nerve sheath being intact, nothing that surgery can do will aid in the regenerative process.

The diagnosis of nerve injury after traumatism is by no means simple. As we have said, a severing or a laceration is usually apparent in the loss of motility which occurs immediately after the accident. The same is not true of contusion. Here the loss of conductivity of the nerve may be transitory and at the time the case reaches the surgeon, if he does make an investigation of the condition of the nerve, he finds it apparently unimpaired. In the next few days a peripheral neuritis may appear, with all the paralytic phenomena associated with it.

It may be difficult in many injuries to determine the motility. In fractures and dislocations there is a limitation of voluntary contractions of the muscles. But it is always possible to determine the sensation of the skin, and, as a rule, we have an accurate means of comparison in the uninjured member. Ordinarily an esthesiometer is recommended for this purpose; as a matter of fact a camel's hair brush is by far the best instrument. We have seen a pin used, it being thrust somewhat deeply into the skin, the patient being asked if it is felt. This test is too coarse. In estimating the sensation of the skin, a pledget of cotton, or light brush easily discovers impaired sensation, even when it is not all lost. It is this lessening of the acuteness of sensation which is of diagnostic importance. An accurate diagnosis of nerve injury is not so essential in the treatment, but it is of great importance in prognosis, as it is an awkward experience to tell a patient with a dislocation of the shoulder that he may look forward to a recovery in three or four weeks, when, as a matter of fact, five or six months elapse before he is able to move the elbow from the side. The electrical reactions furnish a valuable means of estimating the motor impairment due to these peripheral lesions, but they require a somewhat complicated apparatus, and furnish no more valuable data than does the simple testing of sensation. It is the latter symptom that the physician should be constantly on the lookout for, and when it is found, a guarded prognosis should be given, as there is a prospect of nerve degeneration with its associated paralytic phenomena.

Injuries to the nerve, complicating fractures, are not very common, and when they occur the nerve is usually torn and there is often associated injury to the blood vessels and other soft parts, so that the vitality of the limb is seriously impaired, or an amputation is needed. In most fractures complicated by nerve injuries, the nerve is torn and consequently the extent of the injury is recognized. The violence which produces a fracture may cause a contusion of the nerve, just as the dis-

placement of the fragments may tear or contuse the nerve trunk. Associated injury to the peripheral nerve is, generally speaking, not common in fractures, but it occurs relatively with greater frequency in the arm than in other parts. The involvement of the musculo-spiral nerve in fractures of the humerus, is quite frequent. The ulnar nerve is commonly involved in fractures of the humerus near the elbow.

In dislocations we have by far the largest number of complicating injuries to peripheral nerves. Especially is this true of the shoulder joint. We are convinced that no favorable prognosis should be given in a shoulder dislocation until at least two weeks have passed, because of the liability of coincident nerve injury. We have seen a complete flaccid paralysis of all the muscles of the shoulder and arm result from a dislocation of the shoulder which had been promptly reduced. There was no regeneration in this case, and the patient two years after the receipt of the injury had a flail-like arm, and not the slightest motion in any of the muscles of the extremity. This case was exceptional, and was probably due to a severe contusion of the brachial plexus, which caused an immediate complete flaccid paralysis. In this case there were no signs of neuritis.

The four malpractice suits that have come under our observation were each of them connected with injuries to the shoulder. All of them were dislocations; the dislocation was reduced, a retentive apparatus used and a favorable prognosis given. Secondary neuritis resulted in paralysis of the deltoid, and in some cases the other shoulder muscles. In every case there were adhesions in the shoulder joints. In one of the cases there was permanent impairment and in the others a fair recovery took place. In the favorable cases recovery was many months after the time that the physician had assured the patients that they would be well.

In dislocations of the shoulder the injury may be to any one of the nerve trunks which comprise the brachial plexus, consequently the distribution of the paralysis is varied. The most insidious is an injury to the circumflex nerve. It results in paralysis of the deltoid; there is inability to carry the elbow from the side and there is always secondary inflammation in the joint. A degeneration of this nerve always means a partial disability of some months.

This injury to the circumflex nerve is readily overlooked. The deltoid alone is paralyzed. A want of motion in this muscle may not be discovered until the retentive apparatus is removed and all signs of local inflammation have subsided. If examined early a loss of sensation will be found over the deltoid region. In every case of shoulder injury the sensation of this region should be carefully tested. If found diminished a guarded prognosis should be given. Involvement of the circumflex is by far the most frequent of all nerve injuries about the shoulder and it is the most insidious.

Dislocations occasionally may injure the sciatic, but this is exceptional. The same rarity of injury to the popliteal is noted in dislocations about the knee. In dislocations of the ankle and tarsus there is frequently contusion and inflammation of the perineal with paralysis of the muscular group supplied by it.

The so-called reflex paralyses due to joint injuries are still referred to in the text-books. The older writers understood by this a secondary atrophy of the muscles above the joint, which they attributed to joint injury and its associated synovitis. In rare cases a contusion of an extremity will lead to a progressive muscular atrophy, involving all the muscles of the limb and later extending to the trunk. These severe cases are exceptional, but the paralysis of the segment of a limb after a blow upon the the joint is not infrequent. In speaking of them as reflex paralyses we are following an ancient nomenclature which was in vogue before our knowledge of the changes in the peripheral nerves was as complete as it is at present. It is probable that these reflex paralyses are caused by a contusion of the nerve, and that the secondary atrophy and paralysis is due to the inflammation of the peripheral nerve following the contusion.

In the prognosis of nerve injury we can generally rely on the tendency which nerves have to regenerate. They do not do so in all cases, but in the majority; a muscle which has been paralyzed, due to a degeneration of its nerve, may be confidently looked upon to have a restoration of that function in time. A nerve regenerates at about a millimeter a day, providing its trophic center is intact. This, of course, varies with the individual, the state of nutrition and the local conditions. After some injuries, and not always the most severe, there is no tendency in the nerve to regenerate. Just why this is so we can not say. Many of these cases seem quite alike in their symptoms, the nature of the injury and the physical condition of the patient. The rule is that regeneration takes place.

One may ask if Nature will restore the continuity of the nerve, what is required in the way of treatment, and will treatment be of benefit when the rate of regeneration is fixed within comparatively narrow limits? We anwer most emphatically that treatment is of great importance, as in all of these cases there are fibrous adhesions in the joint, about the tendons, and possibly in the muscular structures themselves, that seriously impair the movements of a joint, even if the nerve supply is healthy. When a nerve has in part regenerated the first voluntary impulses that reach the muscle are very feeble. If adhesions in the joints or tendons are met with, these slight impulses may be futile in establishing voluntary movement of the muscle. Consequently, a muscle may remain permanently out of use because of mechanical difficulty in responding to the slight impulses which are able to travel over a partially regenerated nerve. It has been experimentally shown upon animals that electricity and massage maintain to a considerable extent the nutrition of a muscular fiber that has been cut off from its trophic center. It is not probable that such treatment would maintain the integrity of the muscle fiber if completely severed for a long time, but it hinders the process of degeneration so that when the connection is re-established there is a better muscular fiber to act on than though such treatment had been omitted. Massage is of great utility in maintaining muscular tone and is also of some value in preventing tendon and joint adhesions which form such a hindrance to the proper use of the extremity after the nerve supply is re-established. When voluntary motion once reaches the paralyzed muscle, and there are no adhesions or mechanical hindrances to the movement of the part, then the patient may safely be left to his own resources, as there is no stimulus to a partially atrophied muscle equal to that of voluntary contraction.

It is impossible to emphasize too strongly the importance of local treatment of joints in injuries to the peripheral nerves. Quite without exception these cases present a chronic synovitis either as a direct result of the trauma or the secondary trophic disturbances due to neuritis. Every case of chronic synovitis has ad-

hesions; the consequent limitation of motion is a fatal hindrance to the restoration of muscular tone.

In studying the surgical relations of traumatisms of the peripheral nerves the following conclusions are justified:

1. Section or laceration of a nerve, if of some size, is usually recognized at the first examination.

2. Contusions of nerves are common, the symptoms often being latent until neuritis develops; the latter may be delayed some days.

3. Contusion of a nerve may complicate any fracture or dislocation, but is especially frequent in dislocations of the shoulder.

4. Injury to the circumflex nerve merits special mention because of its frequency, the ease with which it is overlooked and its serious consequences.

5. The "reflex paralysis" after joint injury is probably due to a traumatic neuritis.

6. The management of the joint tendon and muscular complications comprises in the main the treatment of traumatic neuritis.

103 State Street.

THE OCCURRENCE OF GOUT IN THE UNITED STATES: WITH AN ANALYSIS OF THIRTY-SIX CASES.*

From the Medical Clinic of the Johns Hopkins Hospital.

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BALTIMORE.

There are practically no published statistics as to the occurrence of gout in the United States, so that it is difficult to form any accurate idea regarding the relative frequency of the disease in America as compared with Great Britain and the continental countries. In a careful search of the "Index Catalogue" I have failed to find any reference on this point. There is a very prevalent impression among writers on gout, particularly the English authorities, that the disease is extremely rare in the United States. Thus, Sir Dyce Duckworth,[1] writing in 1889, makes the statement that "In the United States of America gout is practically unknown. A few cases are met with in the large cities, but, according to Dr. Da Costa of Philadelphia, the disease has not yet developed among the increasing population." Ewart[2] speaks of the United States and Canada possessing a considerable immunity from declared gout. Dr. Osler,[3] in a brief note on "Acute Gout in the United States" written in 1895, remarks as follows: "The comparative infrequency of gout in this country is a matter of everyday comment. In hospital statistics, and in bills of mortality the disease is mentioned but rarely; thus, it does not occur among the causes of death in the Report of the Medical Officer of the City of Baltimore for 1894." Later he says, "During the session of 1894-95 I had in the ward four cases of gouty arthritis at one time, a unique event in my hospital experience." It is of interest to note here that the 36 cases in the present series, excluding one instance, have all been admitted to the Johns Hopkins Hospital since Jan. 1, 1894, and with one exception to Dr. Osler's wards.

The present and particularly the past conditions of life in the United States are not generally held to be those which favor the development of gout or a uric acid diathesis. In England, where gout is generally conceded to be more prevalent than in any other country in the world, there has for generations been a large leisure class who have been heavy eaters and liberal drinkers and who have led rather inactive, sedentary lives. The conditions that are believed to prevail in America may be best described by again quoting briefly from Sir Dyce Duckworth as follows: "The ancestry, diet and habits of the citizens of the United States for the most part are such as will long prevent the onset of gout in that country. The immigration of Irish, Scottish, Scandinavian and German people into that country peoples it mainly with a stock void of gouty heritage. The good climate and the active open-air lives of the people will tend to avert goutiness. But little wine is used, the beer is light and much water and weak tea is taken. The alcohol chiefly used or abused is rye whisky."

Notwithstanding these generally-expressed views as to the comparative infrequency of gout in the United States, I am inclined to the opinion that the disease is much more frequent than is usually believed. In considering the apparent infrequency of gout in this country the failure to recognize the condition must be taken into account, as Osler has pointed out. There is no question in my mind that many cases are mistaken for rheumatism even when well-recognized tophi occur about the joints or on the ears. The disease is not an unimportant factor from an insurance standpoint. The "Report of the Mortality Records of the Mutual Life Insurance Company of New York" for fifty-six years (from 1843 to 1898) shows that there were 50 deaths from gout out of a total of 46,525 mortalities. This in itself is ample proof that gout is far from being rare in America. The best method of determining the relative frequency of the disease in the United States as compared with southern England, where cases are more numerous than in any other part of the world, is to compare the number of cases admitted to a general hospital for acute diseases in a large American city with the number of cases admitted to a similar institution in London. Thus, for the first thirteen years since the Johns Hopkins Hospital was opened, from May 15, 1889, to May 15, 1902, there were 35 cases of gout admitted to the medical wards out of a total of 13,400 medical admissions, or, in other words, 0.24 per cent. of the cases. For a similar period of thirteen years, from 1888 to 1900 inclusive, there were 116 cases of gout admitted to the medical wards of St. Bartholomew's Hospital, London, out of a total of 31,100 medical admissions, or 0.37 per cent. of the cases. In other words, the gout cases constitute 0.24 per cent. of the total medical admissions in a general hospital in Baltimore while in London they comprise 0.37 per cent. of the medical admissions. That is, in the home of gout the cases are only one-third more frequent than they are in at least one American city. This disparity is not marked and it shows that gout is far from being a rare disease in the United States. In justice to those who claim that gout is rare in America it may be stated that there was only one additional case admitted to the various other services of the Johns Hopkins Hospital during the thirteen years, making 36 cases of gout out of 39,000 total admissions, or only 0.09 per cent. of the cases. A similar comparison at St. Bartholomew's Hospital would, however, probably show a corresponding percentage reduction.

The 36 cases analyzed in this series will serve to illustrate the main features of gout as they are manifested in this country. We will first consider what in-

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*Read at the Fifty-third Annual Meeting of the American Medical Association, in the Section on Practice of Medicine, and approved for publication by the Executive Committee: Drs. Frank A. Jones, George Dock and J. M. Anders.

fluence the usual etiologic factors of heredity, alcohol, food and lead have had in the causation of the disease in these cases.

PREDISPOSING ETIOLOGIC FACTORS.

Hereditary Tendencies.—In only 3 cases was there a definite statement that a parent or grandparent had suffered from gout, or in only 8.3 per cent. of the cases. This is in striking contrast with the statement that statistics show that in from 50 to 60 of all cases the disease existed in one or more ancestors. In 9 other cases there was a history of arthritic attacks described as "rheumatism" occurring in the immediate antecedents. The probability is that the majority of these cases were gout rather than rheumatism, as patients usually have an aversion to the statement that there is gout in the family. Putting the most liberal interpretation on these cases described as rheumatism and considering them as cases of true gout it would give us 12 cases with a family history of gout, or 33.3 per cent. of the cases. This evidence would seem to go to show that gout in this country is in the majority of cases freehold, not copyhold, to use the division of old Sir William Browne.

Alcohol.—Alcohol has always been considered a potent etiologic factor, and the form is probably as important as the quantity. Fermented liquors such as wine, beer, ale and porter are much more injurious than the distilled liquors, as whisky, rum, etc. Thirty-four of the 36 patients used alcohol in some form or other. Regarding the other two there is no record as to their alcoholic habits. Two of the 34 patients used whisky alone. We have made it a point to ask carefully, in all gout cases regarding their alcoholic habits and there is a preponderance in the number who have used fermented over those who have used distilled liquors in excess. Beer has been the beverage mainly used, although nearly every beer drinker has drunk whisky also, either moderately or in excess; none of the patients used wine. Alcohol would have appeared to have played an important part in the etiology of these cases although the lighter beers of this country are not so likely to predispose to the development of the disease as are the heavier beers and ales of England.

Food.—The character and quantity of the food can hardly be said to have been a powerful causative agent. The patients did not belong to a social class capable of obtaining abundance of highly-seasoned, nitrogenous food. Nor were they able to lead sedentary lives, as the majority belonged to the laboring classes and required to work for a livelihood. Ten stated that they were heavy eaters, 5 being particularly heavy meat eaters.

Lead.—How and why lead proves to be such an important factor in the production of gout is still a question requiring explanation. Although Musgrave, Huxham and Falconer (1772) had called attention to this association, it remained for Garrod[4] to emphasize this point. He found that at least one in four of the gouty patients who had come under his care in the hospital, had at some period of their lives been affected with lead, and for the most part had been either plumbers or painters. Garrod showed that the blood of patients suffering from lead poisoning contains an excess of uric acid, and it is generally held that the increased liability of lead workers to gout is due to the metal producing arteriosclerosis and chronic nephritis with consequent renal inadequacy.

In only one of our cases was there definite evidence of the patient suffering from lead poisoning. The patient was a painter and was admitted to the hospital suffering from lead colic. There were, however, in all, 8 cases whose occupations exposed them to lead poisoning. Five of these were painters and three were tinners. Thus in 22 per cent. of the cases lead was undoubtedly an important etiologic factor, a percentage very close to that noted by Garrod. It must, then, be concluded that lead is also an important etiologic factor in the United States.

Nationality.—In considering the frequency of gout in this country it is important to note the nationality of the victims. Twenty-seven of the 36 patients were native-born Americans; 4 were born in Germany; 3 in Ireland, and 1 each in Canada and Finland. It will thus be seen that only a small number of the cases occurred in immigrants. In none of these 9 foreign-born patients was there a definite history of gout in the ancestors, although in 4 there was a history of "rheumatism."

Age and Sex.—The ages of the patients on first admission to the hospital according to decades was as follows: From 1 to 10 years, no cases; 11 to 20, 1 case; 21 to 30, 1 case; 31 to 40, 10 cases; 41 to 50, 12 cases; 51 to 60, 7 cases; 61 to 70, 4 cases; 71 to 80, 1 case. The greatest number of cases, 12, occurred between 41 and 50 years, or in the fifth decade. The youngest case was in a boy 17 years old. This is an extremely early age for gout to manifest itself. Gairdner has reported fits of gout in infants at the breast. Cases are extremely rare under 20 years. The rarity of the disease in children and minors is illustrated by Scudamore's statistics of 515 cases. Only 4 occurred before the age of 17, the youngest being 8 years old. There were but 13 in the first two decades. When gout appears in very young individuals it nearly always is inherited. The oldest patient in our series was 75 years of age. His first attack, however, had occurred at the age of 48.

Gout is much more common in males than in females. Women appear to possess a relative immunity. Of the 116 cases at St. Bartholomew's Hospital in 13 years there were 95 in men and 21 in women. It would appear that females in the United States are even less frequently affected. Our 36 cases were all in males. They were all whites, and I know of no instance of gout occurring in a negro.

Social Position.—The cases nearly all occurred in individuals in the lower walks of life. Only 2 of the 36 were treated in the private wards, the remainder having been admitted to the public wards of the hospital.

Occupation.—The occupations of the patients were varied. As having a special bearing on the etiology of the disease it may be recalled that 5 were painters and 3 tinners. Three were bar-tenders or saloon keepers. The frequency with which the latter are liable to be heavy drinkers renders them also specially prone to gout.

Disturbance of Metabolism.—I do not purpose to enter into a discussion of the various chemical theories and their relative merits that have been advanced to explain the disturbances of metabolism that actually give rise to the gouty condition. I may be permitted to refer briefly to my own personal observations regarding the uric acid curve in relationship to the acute attack and the quiescent intervals. In a number of cases carefully followed by the Hopkins' method, or Folin's modification of it, I have almost invariably found that before the onset of the acute symptoms the uric acid is below and often far below 0.4 grams, the lower normal limit for the daily excretion of uric acid in health. On the second or third day after the beginning of the acute symptoms the uric acid curve steadily rises, reaching

0.8 to 1.0 gram, the upper normal limit for the daily uric acid excretion, or even higher than this. With the subsidence of the acute symptoms the curve gradually falls below the lower limit for normal, and in the interval between the acute attacks the excretion may be only 0.1 to 0.2 gram daily. In one very marked chronic case I failed to find any uric acid excretion whatever on certain days during the interval.

I have been particularly interested in observing the relationship between the uric acid and phosphoric acid curves in reference to the acute attack. The results of these investigations will be published later, but I may say that I find that the two curves run almost parallel, the phosphoric acid curve rising with the uric acid curve during the occurrence of the acute symptoms and falling in the intervals. This observation has an important bearing on the question as to the origin of uric acid and strongly supports the view that the uric acid is largely derived from the body nucleins, phosphoric acid being a well-known product of nuclein disintegration. Bain[5] has found a similar relationship between the two curves. On the other hand, Chalmers Watson[6] claims that there is no such association.

CLINICAL TYPES.

Acute Gout.—Three cases were admitted during the initial arthritic attack. These were the only cases of acute gout in the series.

Chronic Gout.—The remaining 33 cases were all chronic, the patients having had several attacks before coming under observation. The shortest duration of any of the cases in this group being one and one-half years, the majority, however, having lasted for a much longer period.

Tophaceous Gout.—In 17 of the 33 chronic cases, or 51.5 per cent., tophi were present. The existence of the tophi made the diagnosis certain and indicated the chronicity of the disease in these cases. The distribution of the tophi was as follows: In 15 cases they were present over the cartilage of one or both ears. They were present in 4 cases in the subcutaneous tissue over the elbow joints and in one over the patella. In these situations they closely resembled the subcutaneous fibroid nodules of rheumatism. In 4 cases they occurred about the finger joints and once over the big-toe joint. One patient had a huge tophus measuring about 5x3 cm. over the left tendo Achillis, and another had a large group of them over the sacrum. In 3 cases suppurative bursitis occurred, resulting from the deposition of sodium biurate in and about the bursal sac. In one case the bursa over the olecranon was involved and in the 2 other cases the prepatellar bursa was the seat of the suppurative inflammation. In both cases the characteristic acicular crystals of sodium biurate were obtained from the purulent contents. In two cases there was suppuration of the tophi about the finger joints and once of a tophus over a big-toe joint. Altogether suppuration of the tophi occurred in 5 cases.

Cardio-vascular System.—The peripheral vessels, particularly the radials, showed a more or less marked grade of sclerosis in 23 cases. The heart was moderately enlarged in 3 patients and there was a mitral systolic murmur, indicating a certain grade of insufficiency, in 5 cases. In only one case was there very definite evidence of marked myocardial disease. This patient had a persistent embryocardia. One of the fatal cases died with a terminal serofibrinous pericarditis.

Urinary System.—It is interesting to note the great frequency with which there were evidences of changes in the kidneys in the series. In 14 of the cases the specific gravity of the urine was persistently below 1015. Albumin was present, usually in small traces, in 27 cases and hyaline or finely granular casts, or both together, in 23 cases. We may say, then, that in 27 of the 36 cases, or in 75 per cent. of the patients, there were strong evidences of more or less serious organic renal disease. Considering the persistently low specific gravity of the urine in 14 of these cases, the probabilities are that the disease had advanced to the chronic interstitial stage in more than 50 per cent. of the cases in which albumin was present.

In the two fatal cases of the series the kidneys were found at autopsy to be very much contracted and the seat of advanced chronic interstitial nephritis. One of the cases died of uremic coma.

I would like to help to correct the impression, apparently held by many practitioners, that a uric acid sediment in the urine indicates a gouty tendency. The power of the urine to hold uric acid in solution is dependent on so many factors, such as the amount of pigment and the percentage of salts present, that but little significance can be attached to the existence of a uric acid sediment. In none of the 36 gout cases was there a uric acid deposit made out on either gross or microscopic examination, even in the acute attack. This affords abundant evidence that a uric acid sediment in the urine is not by any means a necessary accompaniment of gout. Glycosuria was not present in any of the cases.

COMPLICATIONS.

Bursitis occurred in 3 cases. The prepatellar bursa was inflamed twice and that over the olecranon once. In one of the cases it was a suppurative bursitis, and in all three instances the bursæ required to be opened. Unilateral parotitis occurred once. This is a very rare complication, but has occasionally been described. Serofibrinous pericarditis was a terminal event in one case. This patient illustrated some of the remarkable features of retrocedent or visceral gout. The acute joint symptoms had practically subsided when marked abdominal symptoms manifested themselves. There was intense pain in the umbilical region with marked abdominal distension. These lasted for a week, gradually getting worse. His symptoms were believed to be due to possible intestinal obstruction or to peritonitis, and his condition seemed to demand operation. Nothing was found at operation to explain the enormous intestinal distension. The patient died a few hours later, the autopsy revealing a pericarditis and small contracted gouty kidneys. There were but few skin complications. There was one case of acute eczema and one of herpes zoster.

MORTALITY.

Two patients in the series died in the hospital. The main features at autopsy in each case have already been briefly referred to.

DIAGNOSIS.

In a certain percentage of the cases, with a history of recurring attacks limited to the big toe and tarsal joints and occurring in a member of a gouty family, there is little difficulty in arriving at a proper diagnosis. Unfortunately, however, as experience has shown, the diagnosis is not so simple. In many cases the arthritic attacks are not limited to the feet, and a multiple arthritis may occur involving some of the medium-sized and larger joints, and these are liable to be mistaken for and treated as rheumatism. This was the case in 4 of our series, the cases having been repeatedly admitted and discharged with a diagnosis of rheumatism. Eventually the cases returned with characteristic tophi

on the ears or about the joints, revealing without a shadow of a doubt the true nature of the affection. Two of these cases had subcutaneous tophi in the region of the elbows when they were being treated as rheumatism, but these nodules were taken to confirm this diagnosis because they were believed to be rheumatic fibroid nodules. Sections of these after their removal subsequently showed them to be tophi, their centers containing deposits of sodium biurate. In a case of arthritis with doubtful diagnosis accompanied by persisting subcutaneous fibroid nodules the removal and histological examination of one of the latter may absolutely settle the diagnosis. As our statistics have shown, tophi are by far most frequently found in the ears, and Dr. Osler has strongly emphasized the importance of the careful inspection of the latter in all cases of multiple arthritis of doubtful origin. The contents of any whitish, chalky-looking body occurring over the cartilage of the ear in such cases should be examined microscopically. The finding of the characteristic acicular needles of sodium biurate immediately settles the case as one of gout. Small fibroid nodules, Woolner's tip and minute sebaceous cysts may be mistaken for tophi, but the microscope serves to differentiate them.

The character of the uric acid curve can be used in institutions to assist in the diagnosis, but this is not possible in private practice. The occupation of the patients should be carefully enquired after. The occurrence of recurring arthritic attacks in painters, plumbers, brewers and saloon keepers should lead one to strongly suspect gout.

SUMMARY.

1. Gout in the United States is undoubtedly more common than is generally supposed.

2. Out of 13,400 medical cases admitted to Dr. Osler's wards in the Johns Hopkins Hospital during a period of 13 years there were 35 gout cases, or 0.24 per cent. of the total number of patients. For the same number of years at St. Bartholomew's Hospital there were 116 gout cases out of a total of 31,100 medical admissions, or 0.37 per cent. of the cases. Thus, among hospital patients gout is only about one-third more frequent in London than in Baltimore.

3. All of the 36 cases were white males. The largest number of cases occurred in the fifth decade. Twenty-seven of the patients were native-born Americans.

4. The majority of cases appear to have earned rather than inherited their gout. Alcohol and lead seemed to be the most potent predisposing etiological factors.

5. Thirty-three of the 36 cases had reached the chronic stage before they came under observation. In 17 of the cases tophi were present.

6. Among the more interesting complications may be mentioned 3 cases of gouty bursitis; 1 case of parotitis; 1 of pericarditis; 1 of retrocedent gout with symptoms simulating intestinal obstruction.

7. There was evidence of disease of the kidneys in the majority of the cases. Albuminuria occurred in 27 and hyaline and granular casts in 23 instances.

8. Arteriosclerosis was present in 23 cases and a mitral systolic murmur in 5.

9. Many gout cases are mistaken for rheumatism. Four of the cases were repeatedly diagnosed as such on the early admissions, the appearance of tophi later revealing their true nature.

10. The series illustrates the great importance of examining the ears and the vicinity of the joints for the presence of tophi in all cases of multiple arthritis.

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DISCUSSION.

Dr. Richard C. Cabot, Boston—I was much surprised at the frequency of cases of gout as reviewed by Dr. Futcher. Among 28,000 cases in the Massachusetts General Hospital received in ten years there were but four cases of gout, and I doubt if many were unrecognized. It seems to me that there are considerable grounds which lead to the belief that gout is a rare disease in this country. I should like to ask whether he sees any reason in believing that the uric acid curve throws any light on the etiology of gout. Also, whether he believes the so-called visceral or retrocedent gout can be explained as uremia.

Dr. James J. Walsh, New York—Undoubtedly a certain number of cases of so-called rheumatism in which the salicylates fail to be of benefit are really cases of gout. Gout is more frequent in this country than has been thought, and after the confession from Professor Osler's clinic of their mistake of gout for rheumatism three times in one patient any of us will be encouraged to remake our diagnosis of intractable rheumatism with the gout element in mind. On the other hand, I have seen cases in which the existence of the so-called Heberden's nodes gave rise to the suspicion of the existence of gout. Personally I have never considered that the affection had anything to do with true gout. The nodes on the fingers develop absolutely without pain, and tenderness is present only when the fingers have been knocked against something. The English experience is, I believe, that these lesions have no connection with gout, and it is even said that the patients who have them have a distinct tendency to longevity. The affection is certainly not specially limited to the direct descendants of the English, for among the cases that I have recently seen two were native Americans with American ancestry for at least four generations, one was Irish and the fourth was a Swede. I should like to know if others have noticed any connection between this affection and true gout.

Dr. George Dock, Ann Arbor, Mich.—I think Dr. Futcher has presented to the Section one of the most important papers read in years. Although the disease is certainly rare in this country it is important that our attention should be called to it from time to time, and especially as it has been called today. We have now a fairly accurate history of atypical cases of gout. My own observations are entirely negative. I was very much surprised to hear it said by Dr. Cabot that gout was relatively infrequent in Boston. One would expect conditions not unlike those in Baltimore. On the contrary, in my part of the country, with a rural population, I seldom find gout, although I am constantly looking for it, and have been for years. Patients with Heberden's nodes frequently come to one with the idea that they have gout; in my experience none of these people have gont. Whether they enjoy longevity or not I can not tell; in my experience they have often been the sort of people who we expect to live long unless overtaken with some dangerous intercurrent disease, people of tough fiber.

Dr. Allen A. Jones, Buffalo—I wish people would record the etiologic significance of the uric acid. I should like to know more regarding the blood condition in these cases. I have always regarded Heberden's nodes as not being a manifestation of gout. I wish Dr. Futcher would speak on the use of colchicum in the treatment of chronic gout. Gouty nephritis being so constant and common and nephritis being associated so persistently with alcohol and lead poisoning, has led me to consider the gouty manifestations as really a chronic intoxication; the nephritic manifestations being coincident with the gouty manifestations made me think that possibly they were due to the same causes. In private practice I have had but two typical cases of gout occurring in American born; in both cases it occurred in the great toe of the right foot, each joint being as typical as described by the English writers.

DR. J. A. WITHERSPOON, Nashville, Tenn.—Regarding the occurrence of gout in the negro race I should like to report an atypical case. This patient, a man, was a porter in a saloon for years. He was not a pure black negro. He had repeated attacks in the great toe, suffering exquisitely; he also had tophi in both ears. Some of these deposits I removed and examined. They proved to be the biurate of sodium. He also had a number of deformities on his fingers and toes. Another patient invariably began his attack with an acute tonsillitis; this would soon be followed by acute pain in his toe and the usual symptoms of gout. This patient has repeatedly removed some of the nodules from the joints and many of them I have removed. I am inclined to believe that gout is more frequent than is generally supposed in this country. Nor do I agree that negroes are immune.

DR. A. C. CROFTAN, Chicago—The factors that determine the excretion of uric acid are two-fold: (1) uric acid is derived from the uric acid forming substances contained in the food; (2) uric acid is produced by catabolism of tissues of gouty subjects themselves. I do not believe that the determination of uric acid in the urine is of value unless the exact uric acid content of the food is known and the uric acid forming substances it contains are also established. This is manifestly difficult and impractical. The only point with regard to uric acid excretion that I have been able to determine is that it is subject to the same fluctuations in gouty conditions as in normal persons or sufferers from many other diseases. The power of the gouty subject to destroy the uric acid ingested is, however, reduced. If you give a normal subject a definite proportion of uric acid (or nuclein, etc.) a certain small percentage of uric acid is excreted and this is almost constant in relation to the amount ingested; in gouty subjects I have found that this power to destroy uric acid in its passage through the body is reduced. In other words, if a given subject is fed a weighed quantity of uric acid, while the diet at the same time is purin free, and he then excretes more uric acid than he should from the amount taken in, the result may be of importance in rendering the diagnosis of uric acid diathesis. I believe that there is much evidence to show that one of the characteristic features of gout and goutiness (the uric acid diathesis) is the inability of the patient to destroy as much uric acid as a normal subject. This condition is parallel to the inability of the diabetic subject to destroy sugar and the obese subject to destroy fat. What is not destroyed accumulates in the blood and is either retained as deposits or excreted in the urine, hence urate deposits, fat deposits and sugar excretion in these disorders of nutrition.

DR. FUTCHER, in closing—With regard to the uric acid curve in its relation to gout I believe that I am as skeptical as Dr. Cabot is as to its bearing on the etiology. Diminished uric acid output may be of diagnostic value in cases which can be followed in the hospital. I think it is quite possible that symptoms of retrocedent gout may in part be due to uremia, although there must be other factors in the causation of these remarkable symptoms. Of course all cases of chronic gout have marked renal changes as a rule; the abdominal symptoms may be a manifestation of uremia. The explanation of these cases of retrocedent gout is not at all clear. I am sorry that I can give no information regarding the bacteriologic examinations in the cases of inflammation of the serous membranes. I neglected to consult the records on this point. There were only two cases of Heberden's nodosities recorded in the thirty-six cases of gout. I think the general view held is that they are manifestations of arthritis deformans rather than of gout. The temperature is nearly always elevated in the acute cases, arising to 102 or 103 degrees and gradually subsiding as the acute symptoms disappear. I did not gather any statistics as to the blood count, but my general impression is that there was a slight leucocytosis during the acute stages. In a number of the cases I tried to demonstrate the presence of the uric acid by the Garrod thread test, but failed to demonstrate crystals.

The Coming Specific.—Doubtless what cured King Edward will soon be put on the American market for $1 a bottle.—*Chicago News.*

TRICHOPHYTOSIS.

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The too frequent prevalence of ringworm and the importance of its prophylaxis have induced me to offer the following observations and suggestions, hoping that they will emphasize one or more points as to the etiology of this inconvenient disorder.

The disease is always produced by the trichophyton. White of Boston has called especial attention to the frequency of its origin in the barber shop, a fact which common experience verifies. But how does it get there? All authors say, from the domestic animals, viz., dog, cat, horse, white mice, to man. In the stock-raising districts I think the most frequent source is from cattle, and especially from yearling calves. I say yearlings, because I do not think older cattle as good soil for the production of the parasite. The farmers handle their stock, become infected, go to the barber shop and get shaved, and the next person to take the chair gets the disease, and thus it is spread.

The farmers call the disease "barn itch." A young farmer applied to me in the winter of 1900 with ringworm on his wrist and a small patch on his chin; said he got it from his calves and had it the year preceding. I asked one of our veterinary surgeons to go out to this farm with me. We lassoed a calf. Examining the animal we found whitish, circular crusts along the nape of the neck, sides of neck, face and nose. The crusts were piled up, having a depth of a quarter to one-half inch, and having the appearance of broken asbestos. We procured some of the crusts or scales, examined them under the microscope and found them to be the spores of ringworm. I procured some more scales from the same farm, April, 1902, and found an abundance of spores. A short time after procuring the above we procured scales from two horses in which Dr. Albert and myself found the fungi of ringworm.

The clinical picture of ringworm in the horse is very different from that found in the calf. In the horse the patches are round or oval, with loss of hair, the scales or crusts are of a grayish-blue or mouse color and have a mangy look, similar to the patches found in the dog and cat.

A peculiar result in calves is that when they are turned out on grass in the spring they get well without treatment—a very unfortunate thing for the human race. If they did not get well without treatment the farmers would be more careful to have the disease stamped out. I think the perpetuation of the disease is caused by the fact that the disease causes itching and the animals scratch and rub themselves against the boards, posts and feeding racks of the cattle sheds. The next fall a new crop of calves are put into the same sheds, which have not been disinfected so as to destroy the parasites, and thus the disease is perpetuated from year to year to the coming stock as well as to man. Within the last eighteen months I have been able to trace sixteen cases of ringworm to calves, three to a cat; a few I have been unable to trace. It seems that when a person contracts this disease from the lower animals direct it is very much more virulent than from human to human.

The remedy is obvious: A man should let the beard grow or shave himself. If he does patronize barbers he should have an entire outfit of his own, viz., razor, strop, brush, cup, etc., and his own alum stick; sponge or powder puff should not be used. Then, if the barber washes his hands before shaving and uses clean towels,

one could be reasonably safe to be shaved in a barber shop.

In this city some of the barbers attempt to run an aseptic shop. They disinfect their strops in the morning and the razor before using it on each patron. But a preceding patron may have contaminated the strop, and the next customer, of course, stands a chance to become infected. Another great disseminator of germs is the clipper. After use it is wiped and laid away without being disinfected.

In the spring of 1901 a young farmer applied to a physician in our city for an eruption on his face. He asked the physician for a diagnosis, who quickly said, "barber's itch." The young man returned to the barber shop in which he had been shaved and demanded his cup and brush, telling the barber he had contracted the disease in his shop. In about a week he came to the city and his physician was not in. He came to the writer. I diagnosed or traced his ringworm to his own calves and showed that he was the means of bringing it to the barber shop and spreading the disease instead of getting it in the shop. After understanding the source of his disease he returned to the barber shop, and on his apologizing all was well, except the reputation of his first physician, against whom the barber threatened to bring action. Thus one can see how a mistaken diagnosis could cause a suit for damages.

Clinical Report.

A NEW CASE OF SYPHILITIC TUMOR OF THE STOMACH.

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The literature on syphilis of the stomach can be found in a paper[1] on the subject I wrote a few years ago. I divided syphilis of the stomach into three distinct groups: 1, gastric ulcer of syphilitic origin; 2, syphilitic tumor of the stomach; 3, syphilitic stenosis of the pylorus. The second group, "Syphilitic tumor of the stomach," appears to be the most interesting one. For, on one hand the resemblance to cancer of the stomach is great, on the other hand the diagnosis, while at first merely probable, can soon be made positive by the result of treatment and the gradual disappearance of the growth.

As cases of syphilitic tumors of the stomach are quite rare I take pleasure in reporting the following new observation:

Max F., 42 years old, has been complaining for the last seven years of digestive disturbances. He frequently suffers from gastric pains. His appetite is poor and the bowels are slightly constipated. He has not lost much in weight, altogether about eight pounds. He had syphilis twelve years ago.

Present condition (March, 1901): Patient looks somewhat thin and pale. His tongue is slightly coated. Chest organs do not reveal anything abnormal. In the epigastric region about two fingers below the ensiform process a distinct resistance (about 5 cm. long and 2 cm. wide) presenting a nodular surface can be mapped out. The stomach lies directly underneath and extends downward to about one finger's width above the umbilicus. The knee reflex is intact. The urine does not contain any sugar or albumin. The examination of the gastric contents one hour after Ewald's test breakfast shows: HCl + Acidity = 40; no stagnation of food.

In this case there was no question about the presence of a tumor in the stomach. Ordinarily the existence of a malignant growth would suggest itself. Several prominent physicians and surgeons had in fact made a positive diagnosis of cancer of the stomach and had urged operative intervention. At first sight I likewise entertained a similar view. On further reflection, however, there were several features in the case which spoke against cancer of the stomach: 1. The long duration of the disease—7 years; second, absence of any considerable loss of flesh; 2, presence of free HCl and no stagnation of food in the stomach. These data in conjunction with the fact that patient had had a syphilitic affection justified the assumption that we may have to deal here with a gummatous growth of the stomach.

I presented patient at one of my lectures at the Post-Graduate Medical School and gave these reasons for the belief that we have to deal here probably with syphilis of the stomach. All the colleagues at the lecture corroborated the existence of a distinct tumor as above described.

Patient was now subjected to a rigid antiluetic treatment—iodid of sodium internally and rubbings with mercurial ointment—and he began to improve quickly. The gradual diminution of the tumor could be observed each time the patient was examined, until after the lapse of six weeks nothing of the resistant mass could be discovered. At the same time the patient gained in strength and in weight, and after a period of three months he was practically free from any digestive disturbances. He has remained well ever since, and so far has had no recurrence of his old stomach trouble.

It may not be out of place to outline the points of differential diagnosis between a gummatous growth and malignant neoplasms of the stomach. In the case here reported there was a history of gastric disturbance for seven continuous years, which did not tally with carcinoma of the stomach. This, however, need not always be the case. In my former paper on syphilis of the stomach I have described two cases of gastric tumor with a short history of the disease, which were nevertheless of syphilitic origin.

The presence of free HCl is also no positive proof against cancer, and may be missing in gastric gumma.

Ischochymia appears to be much rarer in syphilitic tumor of the stomach than in cancer of this organ.

A previous history of lues while suggestive of the existence of a syphilitic affection can not be taken as of great weight in any direction. For, on the one hand syphilitic patients are frequently enough afflicted with cancerous affections; on the other hand, a gummatous growth in the stomach is sometimes discovered in a patient not giving any definite data of a previous syphilitic disease.

While the above symptoms—long history of gastric disturbance, presence of free HCl, absence of ischochymia, distinct history of syphilitic disease—if all present may justify the surmise of a luetic nature of a palpable growth of the stomach, still a positive diagnosis can be made only under the following conditions: 1. An antisyphilitic treatment improves the subjective symptoms. 2. It also effects a gradual disappearance of the growth, so that ultimately it can not be discovered by palpation.

With regard to treatment the administration of the iodids—iodid of sodium, iodid of potassium, iodipin—seems to be of the greatest importance and may alone effect a cure. This, however, is certainly accelerated by the addition of mercury. I usually apply the old but still very rational method of rubbings with hydrargyrum salve. This mixed treatment should be applied uninterruptedly for about 3 months and the iodid of sodium continued for two to three months more.

The diet should be a liberal one, excluding, however, highly spiced and also too coarse foods. Plenty of bread, butter, milk and eggs can be warmly recommended.

1. Max Einhorn: Syphilis of the Stomach. Philadelphia Med. Journal, Feb. 3, 1900.

Electric Light on the Eyes.—A Russian physician has decided that, contrary to the general opinion, electric light plays less havoc with the eyes than other forms of illumination. He bases his deductions on the fact that disease and damage to the eye is proportioned to the frequency of closure of the lids. He has found that the lids close in a minute 6.8 times with candle light, 2.8 times with gas light, 2.2 with sunlight and 1.8 times with electric light. While this fact may be true for the external portion of the eye, it is clinically proved that retinal and muscular asthenopia are greatly increased by electrical illumination and the reflex conjunctivitis and blepharitis are made worse.—*Toledo Med. and Surg. Reporter.*

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

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Cable Address: "Medic, Chicago"

Subscription price: Five dollars per annum in advance

SATURDAY, OCTOBER 25, 1902.

ACUTE DILATATION OF THE STOMACH.

There are many features in connection with acute dilatation of the stomach that merit attention and further investigation. In the first place the condition has not received the attention it deserves. This is shown by the absence of any adequate discussion of it in most of the popular text-books of the day, and even in the best of them. And there is reason to believe that acute dilatation without pyloric obstruction is frequently overlooked by physicians and surgeons, probably because of lack of familiarity with its occurrence and its principal characteristics. H. Campbell Thomson's[1] recent collection of cases and summary of the chief features will therefore undoubtedly prove useful. He has collected forty-four cases, which he divides roughly into five groups according to mode of origin: Those cases without apparent cause or lesion after death; those showing after death other definite lesions; those following surgical operations but without other lesions after death; those apparently following dietary indiscretions; and finally, those following injury. Thus twelve of Thomson's cases followed surgical operations, four of which were abdominal and three of these again were connected with the gall-bladder and ducts. One of these three cases is reported by Fenger and Hessert.[2] It may be taken as a type of acute dilatation of the stomach. Shorn of all detail, interesting though much of it be, the case, one of cholecystotomy, which progressed favorably for five days, was marked by sudden onset of repeated vomiting, grave general symptoms, tympany beginning in the upper part of the abdomen, temporary relief of practically all symptoms by the passage of the stomach tube, large quantities of fluid being withdrawn, and death five days after the beginning of the vomiting. At the autopsy nothing remarkable or abnormal was found except a greatly dilated stomach.

It is of interest to note that acute dilatation may develop in connection with severe general illnesses, such as pneumonia, typhoid, etc. Age or sex does not seem to be of any decisive import, most of the recorded cases having occurred between the ages of 20 and 30 years. After death the stomach appears as a tightly-distended cylinder, shaped like a V, one limb, the pyloric, being shorter than the other. No definite microscopic or macroscopic changes have been noted in the stomach, and in the majority of the cases there were no signs after death of pyloric or intestinal obstruction. The prognosis is extremely bad, but Thomson believes that cases of moderate severity, ending in recovery, have not received any attention, and that when the disease is studied more closely it will be found to present itself in varying severity.

We are not able now to account for this acute dilatation of the stomach. Its development under so many varied circumstances indicates either that it is dependent on many different causes, operating in many ways perhaps, or on some one essential cause that as yet has escaped completely our attention. That all cases are caused by constriction of the duodenum from traction on the superior mesenteric artery[3] does not seem possible, because in many cases there is continuous distension of the entire duodenum far into the jejunum. Thomson favors the view that paralysis of the stomach wall is the primary event. Muscular contraction of the stomach is not necessary to produce vomiting; that may take place from compression of the stomach by the abdominal muscles and the diaphragm when the cardiac orifice is dilated. The paralyzed stomach would become dilated from the accumulation of gas and fluid in its cavity. But no satisfactory cause of this paralysis has been found as yet. The influence of toxins on nerves and nervous centers, neuritis, myositis have been suggested, but in the absence of any definite data, histologic or experimental, bearing on this obscure problem, nothing decisive is gained from discussing possibilities. The mechanism whereby is poured out the excessive secretion in these cases is also beyond rational explanation at this time. It would seem likely that well-planned experiments might reveal something of the real factors at work in this so-called paralytic secretion.

The treatment of a disease whose real cause and nature are not well understood must of necessity largely be symptomatic. Where there is excessive secretion this should be removed by the stomach tube in the hope that the stomach may regain its tone and successfully empty itself. The prone position and the knee-elbow position may be tried in order to relieve obstruction caused either by pressure of the distended stomach or possibly by the dragging of the intestines on the mesenteric artery as it crosses the duodenum. Thomson suggests gastro-jejunostomy, especially if when laparotomy has been made there seems no chance to help the patient by correcting the position of the viscera.

1. Acute Dilatation of the Stomach. New York: William Wood & Co. 1902.
2. Chicago Clinical Review, 1898.

A NEW OPERATION FOR THE RELIEF OF PYLORIC OBSTRUCTION.

Within the past few years it has come to be recognized more generally that not all forms of chronic dyspepsia which has gone under such a variety of names, are necessarily hopeless, even after medical means have been given a thorough trial. The number of surgeons re-

3. See discussion of Albrecht's article in THE JOURNAL, Aug. 19, 1899, and Feb. 9, 1901.

porting the successful operative treatment of these cases of so-called motor insufficiency, chronic dyspepsia and neurasthenia, is increasing from year to year. A large number, if not a vast majority, of the chronic stomach affections which are amenable to successful surgical treatment are caused by either gastric ulcer or its sequels and are accompanied by more or less interference with the emptying of the stomach. The operations which have been in general use for the relief of such conditions in the past have been gastroenterostomy and the pyloroplastic operation devised by Heineke and Mikulicz. Each of these methods has its drawbacks, and this has given rise to a number of modifications of the methods of gastroenterostomy and pyloroplasty. Simple anterior gastroenterostomy has frequently been followed by spur formation and the so-called vicious circle, by which the contents of the intestine are carried by peristalsis into the stomach and thus give rise to intractable vomiting which, unless relieved, results in death. Many surgeons believe that posterior gastroenterostomy gives more satisfactory results, but the vicious circle still occasionally occurs.

To avoid this disagreeable sequel to operation, various methods have been devised, such as a supplementary enteroanastomosis, Roux's Y anastomosis, etc., but these methods add considerably to the length of the operation, and in the case of patients considerably reduced in strength by disease, as is often true in this class of cases, the added time may be a factor of great importance. Pyloroplasty has the decided advantages over any of the methods of gastroenterostomy that it leaves the opening for exit of food from the stomach in the position in which Nature placed it, and that the vicious circle never follows. On the other hand, if there be a great deal of dilatation of the stomach, the organ is not sufficiently drained by the operation of Heineke and Mikulicz: in certain cases recurrence of the stricture has followed from contraction of the scar, and in a considerable number of cases the operation is impracticable because of extensive and firm adhesions to the pylorus or because of great inflammatory thickening of the region of the pylorus. Thus it is seen that neither of these operations has proved entirely satisfactory.

Finney[1] has described a new and original method of pyloroplasty which seems to combine the advantages of both gastroenterostomy and the pyloroplastic operation of Heineke and Mikulicz without the disadvantages of either. His operation is really a subpyloric gastroduodenostomy by lateral anastomosis. The duodenum just below the pylorus is folded directly on to the stomach and held in place by a line of sutures. A second row of sutures is placed, but drawn to either side, and after walling off the peritoneal cavity with gauze, an incision is made through the wall of the stomach and the wall of the duodenum, passing directly through the pylorus. The scar tissue in the region of the pylorus is removed as far as possible and a continuous catgut through-and-through suture is taken through all the coats of the intestine and stomach on the posterior side of the incision. The anterior sutures are then drawn out and tied and a few reinforcing sutures may be placed if desired. The operation should take but little if any more time than the ordinary gastroenterostomy and much less time than gastroenterostomy combined with any other form of entroanastomosis. Finney reports five cases of operation by this method, and several other cases have since been operated on. From what we know of the operation and its results we believe that he is justified in his conclusion that his operation combines more good points and less objectionable features than any other method for the relief of pyloric obstruction which has been suggested up to the present time.

1. The Journal A. M. A., August 23, p. 452, and Bulletin of Johns Hopkins Hospital, July, p. 155.

PHYSICIANS AND LONGEVITY.

It has often been said that it is not work but worry that kills. Perhaps no better exemplification of the truth of the saying can be found than the number of hardworking physicians, occupied unceasingly with great problems in medicine, who have nevertheless lived to what may well be considered an advanced age. Virchow's long life of nearly 81 years of strenuous devotion to work, so recently closed, is only a type of the prolongation of existence and usefulness that has fortunately been the lot of some of the greatest of the medical investigators. Longevity has been the rule, however, not only for the laboratory worker who in the placid preoccupation of original observation avoided the distraction of mind and the diversion of activity incident on medical practice, but also for the man who is able to combine both successfully. In fact, while the average life of the practicing physician is the shortest of any of the professions, most of the great investigating practitioners have lived lives so long as to encourage every medical man to take up original observation, if with no other idea than that of assuring himself longevity.

The great Greek father of medicine, Hippocrates, set a worthy example by living until he was nearly 83 years of age. Galen, his worthy successor in influence, lived at least beyond his seventieth year. In more modern times Harvey, the discoverer of the circulation, always interested in medical investigations, yet never neglecting the practical side of medicine, passed his eightieth year. Ambrose Paré, the French surgeon, in spite of a life of trials and years of unhealthy camp life, lived to be nearly 75. Harvey's great Dutch contemporary, Leeuwenhoek, the inventor of the compound microscope and the first investigator of microbic life, lived to be 91. Morgagni, whom Virchow called the founder of modern pathology, had nearly completed his eighty-ninth year. Auenbrugger, the inventor of the method of percussion for the investigation of diseases of the chest, reached a similar advanced age. Scarpa, the distinguished Italian anatomist and "inventor"—according

to the nonplussed medical student—of the triangle, reached the ripe age of 87.

It is not alone in past centuries, however, that physicians have completed the threescore years and ten that are the days of our years here on earth, yet have lived on to enjoy life in comfort and happiness. The nineteenth century, with all its bustle and rush, did not shorten the usual long life of the investigating physician. Louis, the distinguished French clinician, to whom America owes so much for the training of the great generation of investigating practitioners of the middle of the nineteenth century, in spite of a family sorrow that broke his spirit at 60, lived to be 85. Schoenlein, to whom so many of the present generation of German internists look back as a master, reached the age of 91. Traube, another distinguished German teacher, lived to be nearly 80. Cruveilhier, the great French anatomist and physician, lived to be past 82. Langenbeck, Skoda, Brodie and Cullen were well on their way to their eightieth year when death came. Sir James Paget was over 75. Velpeau, Magendie and Sir Astley Cooper were well beyond their seventieth years. The distinguished physiologist Johann Müller, while occupying the chair of physiology and anatomy at Berlin about the middle of the nineteenth century, gathered around him perhaps the most distinguished band of medical students any teacher has ever had. Many of them were destined to longevity as well as fame. Among them beside Virchow were Du Bois Reymond, the physiologist, who died at 78; Helmholtz, the physicist, who lived to be 76, and Schwann, the founder of the cell doctrine, who died at 72.

Our greatest American physicians and surgeons, in spite of the trials of a new country, the harder struggle for existence and the hardships incident to practice because of the difficulties of traveling, bear very favorable comparison with their distinguished foreign colleagues in the matter of longevity. John Collins Warren, the first professor of anatomy and surgery at Harvard, lived to be 78. Edward Delafield of New York lived beyond fourscore years, while Jacob Bigelow of Boston more than completed fourscore years and ten. John R. Cox, the editor of the first American Dispensatory, reached the ripe age of 91. Dunglison, the well-known medical lexicographer, Alonzo Clark, whom many generations of medical students learned to revere, and Valentine Mott, great teacher and busy consultant, all of them lived to be over 80. So has Nathan S. Davis, the founder of the American Medical Association. Gross, the distinguished surgeon, died at 79, having declared it as his opinion at 75 "that any one who is used to work and gives it up may be considered a dead man." These are but a few of many who lived beyond the psalmist's limit without fulfilling his sad prophecy of subsequent unhappiness.

Nor are all the grand old men of medicine dead. Many of the greatest living physicians are over 70 years of age, most of them in the enjoyment of health and strength, though their lives have been full of faithful application to hard work. It is not as some one has said, that a man must live long to achieve fame, for most of the great physicians made the original observations on which their fame depends while still comparatively young. On the contrary, it seems that the faculty for intense and prolonged devotion to work is the first requisite of a genius, and far from being morbid or unhealthy, is the natural exercise of the superabundant vitality that is in the man. Instead of looking for a shorter-lived generation of medical men then, because of the hurry of twentieth century endeavor, we may expect the race of medical patriarchs to be generously continued, for the investigation spirit is abroad, and physicians generally are rising into that higher plane of calm, original observation that fosters long life.

A UNITED PROFESSION IN NEW YORK.

From a telegram received from our New York correspondent just as we go to press we are led to believe that the long-hoped-for union of the New York profession is soon to be realized. The matter came before the annual meeting of the New York State Medical Association held this week. Our correspondent wires that the joint committee representing the New York State Medical Association and the Medical Society of the State of New York agreed to recommend the adoption of the name of the Medical Society of the State of New York and the present organization of the New York State Medical Association, and to apply to the legislature at its next session for a new charter under this agreement. The New York State Medical Association adopted a resolution to the effect that the committee representing it be continued for the purpose of co-operating with a committee from the Medical Society of the State of New York to secure a charter at the next session of the legislature in 1903 which shall reconstitute the two state organizations into one state body.

PROFESSOR LORENZ AND THE STATE BOARD.

There has been considerable criticism of the action of the Illinois State Board of Health requiring Professor Lorenz, the noted Vienna surgeon, to take out a license to practice. As his practice here was not confined to consultation cases and there was every probability of a large demand for his services after the advertising he has received, the strict compliance with the law on the part of officials oathbound to do their duty seems on the whole commendable rather than otherwise. It is not likely that an American physician would be allowed to do any profitable practicing in Vienna without going through a more than merely formal test of his qualifications, if indeed he would be allowed to do any at all. In this country we are a little too apt to be over-accommodating in such matters and we have hardly been educated yet to the point of seeing the necessity for any medical laws whatever. We do not believe, moreover, that the distinguished surgeon whose case was passed on by the board feels aggrieved because he has been regularly qualified as a practitioner in Illinois. We hope the board will go on with the good work of requiring all

who are practicing medicine to conform to the law. There are still more than a few in Chicago and the state, both foreign and native, whose cases call for their attention.

GRAVE ROBBING.

The newspapers have lately been full of gruesome (to use a popular newspaper term) accounts of grave robbing in Indiana. There appear to have been very extensive operations in this line and the public is naturally aroused on the subject. While there is no legal or moral defense for this kind of law-breaking, the fact that Indiana has no laws providing for legalized dissection and provision of dissection material is the real cause of the present state of affairs. Efforts that have been made to get such a law have been defeated, it is said, through the determined opposition of the undertakers, who have thus far exercised a predominent influence with the legislature as regards this matter. Yet the state of Indiana charters a medical college, and if it can get no material from lawful sources it utilizes unlawful ones. The result is necessarily demoralizing; it encourages the existence of a class of criminals who do not discriminate as to what they take or where it goes, and the result is these occasional distressing and generally disturbing revelations. So long as every state must have a medical college it should also pass laws providing it with the necessary material. The medical profession and the sensible portion of the laity ought, in view of what has occurred, to have sufficient influence to secure legislation that will put the ghouls out of business.

A SURGEON'S REMINDER.

The surgeon's position is sometimes not an enviable one, especially when his failures or errors are public property. The recent experience of one of the most brilliant and progressive operators is in point. He was called to a patient who claimed that he had swallowed his false teeth and demanded an operation. The attending physician was positive that he had felt the object before it slipped away from him. The teeth were missing, the pharynx was lacerated as if by a rough body, and, in addition to all other tests, a radiogram was made that apparently showed the foreign body lodged in the lower esophagus. On operation the teeth were not found, but subsequently turned up in the patient's bed. The patient died and the newspapers got hold of the story and made the most of it. It is clear that the patient suffered from a definite delusion, which could hardly have been anticipated or detected, and with this there must have been a hysterical contracture, such as is by no means unknown under such conditions. The surgeon's fault was his too implicit confidence in the radiogram, which it seems must have been made by an unreliable or unskilled operator, and in believing what others told him. The result is an unfortunate and really undeserved temporary publicity in a damaging way. The case suggests how much care should be exercised in surgical diagnosis to avoid mistakes and the impossibility of always avoiding them, even when apparently everything possible has been done. No surgeon should operate on another's diagnosis, unless verified by himself. In this case everything seems to have been misleading. The public and professional faith in the revelations of the *x*-ray is somewhat injured by this occurrence, but it has been long known that it, like even mathematics, may sometimes lead us wrong. It is not surprising that the surgeon in this case considered the case as a proper one for operation. With the facts as given us, most, if not all, of us would have been similarly misled.

PASSAGE OF TUBERCLE BACILLI FROM THE INTESTINE INTO THE CHYLE VESSELS AND THORACIC DUCT.

The great infrequency of primary tuberculosis of the intestines does not harmonize at all well with the views that in a large number of cases tuberculosis is of alimentary origin. It will be recalled that Koch in his London address used this fact as an argument in favor of the harmlessness of milk from tuberculous cows. It would be difficult, however, to explain many cases of tuberculosis of the mesenteric lymph nodes, in which there may be no evident primary intestinal lesion, without assuming that the bacilli had entered from the intestinal lumen. Experiments, too, indicate that tubercle bacilli, as well as other bacteria, may pass through the normal intestinal wall. The most recent experiments are those of Nicolas and Descos,[1] who fed fasting dogs large quantities of tubercle bacilli in soup. Some three hours later the animals were killed and several cubic centimeters of chyle secured for further study at the same time as a thorough examination was made for the presence of existing old tuberculous lesions. They succeeded in perfectly healthy animals thus fed, in demonstrating tubercle bacilli in the chyle in small numbers and stainable with great difficulty; of greater importance perhaps is the fact that three guinea-pigs were rendered tuberculous by injection of chyle from two of these dogs. It is true that injections of similar material from four other dogs fed with tubercle bacilli did not cause tuberculosis in guinea-pigs, but it seems to be clearly shown that three hours after the ingestion of tubercle bacilli the contents of the chycle vessels and the thoracic duct may harbor virulent bacilli in numbers sufficient to cause tuberculosis of guinea-pigs. These experiments (which ought to be repeated by others) are certainly very suggestive of what may be the course of events when, for instance, milk laden with tubercle bacilli is taken into the stomach, and it may well be that tuberculosis of alimentary origin is established in this way without local intestinal lesions.

UNFAIR TESTS.

In a recent number of THE JOURNAL there was a criticism of one or two questions offered by the State Examining Board of California. The matter was of slight importance, and was only emphasized as a caution against affording the opponents of medical practice acts an opportunity to attack them; it does not appear from later information that any injustice was done to anyone on account of the questions mentioned. Nevertheless there has been started an active fight against the board on the part of the quacks, including the employment of

1. Journ. de Phys. et Path. gén., 1902, iv, 910-912.

that frequent resource of exposed frauds, a libel suit. In this case the charge of libel against one of the medical examiners appears especially tenuous and, it seems to us, should prove a boomerang if it is ever carried to trial. There is always likely to be some dissatisfaction when an unduly large proportion of candidates from any particular school fail to pass, and though it indicates defects in the candidates rather than in the examiners, charges are liable to be made. When members of the profession fall out in such a matter it is quickly taken up and made the most of by those outside irregulars to whom all restrictive practice laws are an abomination. As a whole the California state examination was eminently fair and what any well-qualified candidate should have been able to pass. The attack on the law and on the individual members of the board is clearly unjustifiable and unworthy in its motives.

Medical News.

ARKANSAS.

Personal.—Dr. J. C. Minor has returned to the United States after three years service in the Philippine Islands and will open an office in Hot Springs, about December 1.——Dr. Harry C. Stinson, Dermott, has been elected superintendent of the Arkansas State Lunatic Asylum, vice Dr. Philo O. Hooper, deceased.——The firm of Drs. Holland, Jelks and Bernart have succeeded to the practice of Drs. Jelks and Holland, Little Rock.

ILLINOIS.

Home for Feeble-Minded Children.—The Beverly Farm, Home and School for Feeble-Minded Children, Godfrey, has recently enlarged its equipment at an expense of $6000, introducing a kindergarten school and an exclusive boys' cottage.

Chicago.

Crusade on "Fake Medicine Concerns."—A detail of detectives has commenced a crusade against fraudulent medicine concerns, and, on October 17, raided a building at 1545 Michigan avenue and confiscated a large quantity of literature of the "Chicago Cure Company."

Installation Clinics.—As a part of the special exercises connected with the installation of President James of Northwestern University, Professors Lorenz of Vienna, Robert T. Morris of New York City, and Norman Bridge of Pasadena, Cal., gave clinics at Mercy Hospital, October 22, from 9 a. m. to 1 p. m. Professor Morris also read a paper on "Peritoneal Adhesions" before the Chicago Medical Society on the same evening.

Mortality of the Week.—The 445 deaths reported during the week ended October 18 represent an annual mortality of 12.73 per 1000, or an increase of more than 10 per cent. over the rate of the previous week, when there were 42 fewer deaths reported. The principal causes of the increase and the numbers in excess were: Pneumonia, 22; nervous diseases, 13; apoplexy and heart disease, 12; diphtheria and violence, 8 each. Aside from diphtheria, the causes are those with which sanitary administration can do little.

Presbyterian Hospital Must Secure Nurses.—The Illinois Training School for Nurses will terminate its connection with the Presbyterian Hospital at the expiration of its present contract, Nov. 1, 1903. In their communication to the executive board of the hospital the managers of the school say:

> At the expiration of our last contract, Oct. 1, 1901, it was with considerable reluctance that we entered into another, as we had found it impossible the preceding year to furnish the requisite number of nurses without calling in graduates, thus not only increasing our expenses, but reducing our income from special nursing. We had hoped that this demand would lessen and that we might continue to serve you another three years, but this we now find impossible.
>
> In closing our connection with the Presbyterian Hospital, we do it with sincere regret and with the most cordial feelings toward the trustees and all those connected with its management.

Below-Grade Milk.—Notwithstanding the good pasturage an increased proportion of samples of milk below grade have been found by the milk inspectors; but this is largely due to the fact that their labors have been directed to the poorer districts. The department has resumed the publication of the names and addresses of dealers who sell "skimmed milk" as "whole milk," and it rests with consumers to punish these by refusing to further patronize them. The dirty milkman is even more dangerous than the dishonest one, and the war against dealers whose facilities and depots indicate that they can not handle milk properly will be waged with more severity than heretofore. During the week several samples of milk have been found adulterated with formalin—for which there is even less excuse than in hot weather. Suits have been begun against these offenders and will be pushed rigorously.

INDIANA.

Indiana Medical College.—The following lecturers have been added to the teaching force: Dr. Albert A. Kimberlin, physical diagnosis; Dr. Hugh M. Lash, nervous diseases; Dr. John J. Kyle, nose and throat diseases, and Dr. Charles A. Pfafflin, histology.

Suit Withdrawn.—Dr. James N. McCoy has dismissed his damage suit against Dr. Norman E. Beckes, both of Vincennes, for $5000, without prejudice. The original suit was for $5000 for malicious prosecution on account of alleged violation of quarantine, and the defendant filed a demurrer to the complaint on the grounds that the law in malicious prosecution makes it necessary to charge a crime to found a suit.

Wants Rules Made Law.—The State Board of Health has decided to ask the next legislature to enact the rules of the board into law, and to enact a state laboratory law to make enforcement of pure food measures possible. The rules of the board have the effect of law, according to the Supreme Court, but it often happens that justices of the peace and other judicial officers, not seeing them in the statutes, and not knowing of the Supreme Court's decisions, refuse to enforce them.

Prevalent Diseases.—Smallpox for the twentieth consecutive month was the most prevalent disease. There were 219 cases reported from 39 counties with 3 deaths. In the corresponding month last year there were 80 cases reported, with no deaths. Next to smallpox, typhoid fever was the most prevalent disease during the month, and the same order prevailed in the preceding month. All diseases of the respiratory tract increased in area of prevalence, while the diseases of the intestinal tract decreased in area of prevalence.

Mortality of Indiana.—The monthly reports to the Indiana State Board of Health show that the total number of deaths for September was 2312. This is a death-rate of 13.6 per 1000 per annum, and is exactly the same rate as for the corresponding month last year. The number of deaths under 1 year of age was 536, or 20 per cent. of the total number; between one and five years 288, or 10.7 per cent. of the total number; between 5 and 10 years 71, or 2.6 per cent. of the total number; between 10 and 15 years 62, or 2.3 per cent. of the total, and 65 and over 613, or 22.9 per cent. of the total number. From important causes of death the number of deaths was as follows: Pulmonary tuberculosis, 282; other forms of tuberculosis, 51; typhoid fever, 232; diphtheria, 34; scarlet fever, 7; whooping-cough, 16; pneumonia, 112; diarrheal diseases under 5 years of age, 322; cerebrospinal meningitis, 24; influenza, 6; puerperal septicemia, 17; cancer, 114; violence, 105; smallpox, 3. In comparing these figures with those of the same month last year, there is an increase in the rate for consumption of 8.8 per 100,000, for typhoid fever of 21.6, and for pneumonia of 18.9.

Alleged Grave Robberies.—The cases referred to in THE JOURNAL two weeks ago are now before the grand jury. All the accused, with one exception, are negroes. The exception is the demonstrator of anatomy in the Central College of Physicians and Surgeons, who is under bonds. The negroes claim that the demonstrator located bodies in cemeteries, went on the bond of an accomplice when caught, and also pledged himself to pay for certain shotguns bought by the negro grave-robbers. The partially dissected bodies found buried in the basement of the Indiana Medical College were proved to have been relics of the fire which consumed the buildings in 1898, and to have been legally secured. The law in Indiana has been construed by the attorney-general as a device to prevent medical colleges from getting bodies, rather than assisting them. A new law is to be proposed, by the provisions of which the state may furnish medical colleges the cadavers needed for the proper instruction of medical students in anatomy. The measure will be modeled somewhat after the law in force in the District of Columbia, and will provide for a state board of anatomy. Every medical college in the state will be represented on it. Unclaimed bodies of paupers dying in public in-

stitutions will be reported to this board. Equitable distribution, according to number of students, will be made of these corpses among the colleges. After all have been supplied with a full quota the bodies shall be buried at county expense, as is now the method.

IOWA.

Ellsworth Hospital Opened.—The new hospital at Iowa Falls, erected by the efforts and munificence of E. S. Ellsworth, at a cost of about $20,000, has been opened.

Leprosy in Iowa.—Secretary Kennedy of the State Board of Health has been asked for information as to what shall be done with two cases of leprosy reported in the state, one a young Norwegian woman living near Humboldt, and the other a man at Gilmore City.

New Members of Mercy Hospital Staff.—The staff of Mercy Hospital, Davenport, has been increased by the appointment of Dr. Carl Matthey, consulting staff; Drs. George W. Banning and Karl Vollmer, laryngologists and rhinologists, and Drs. Oliver W. Kulp, Frank N. Stiles, John D. Cantwell, Ono P. Sala, Frederick Boes, Oscar A. Dahms, George E. Decker, George M. Middleton, Daniel J. McCarthy, Alfred B. Hender, and William Speers, attending staff.

KENTUCKY.

Coal Company Hospital.—A large hospital has been erected near Middlesboro by the Stonega Coal and Coke Company, to care for the sick and injured men who may be hurt while in the employ of the company.

Hospital Staff Reorganized.—The staff of Speers Memorial Hospital, Dayton, has recently been reorganized, with Dr. Charles B. Schoolfield, Dayton, president, and Dr. George J. Herman, Newport, secretary. Several new men have been added to the staff. The hospital has been in financial straits for the past few years, and has now taken on new vigor. Dr. George Buttemiller has been appointed interne to the hospital.

MARYLAND.

Personal.—Dr. Charles H. Ohr, Cumberland, celebrated his ninety-second birthday, October 19. He has had an eventful life and has filled many offices. He was educated at the Gettysburg College; graduated in medicine from the University of Maryland in 1834; settled in Cumberland in 1847, and was grand master of masons of the state, 1849-1851; served several terms in city council, was mayor of Cumberland, state senator, assistant surgeon U. S. Army during the Civil war; president of the Allegheny Fire Insurance Company and president of the Medical and Chirurgical Faculty of Maryland. He retired from practice several years ago.——Dr. W. H. Ravenscroft, Oakland, will spend the winter in Denver.

Baltimore.

Typhoid Fever and Mortality.—There were 5 deaths and 40 new cases reported last week. The total mortality was 154, which is said to be the lowest death rate for years.

Endowment of Medical School.—The faculty of the University of Maryland has appropriated $1000 to the permanent endowment fund of the medical school annually for five years.

Personals.—Dr. S. Griffith Davis has been elected professor of anatomy, clinical and operative surgery in the Woman's Medical College.——Dr. Henry Barton Jacobs has returned from Europe and is at his villa at Newport.——Dr. A. Leo Franklin has been appointed resident surgeon in the gynecologic department at the University of Maryland Hospital.——Dr. Frank Martin has returned from Europe.——Dr. J. B. Crenshaw sailed for Bremen, October 18.——Dr. William A. Moale has returned after an extended trip abroad.——Dr. H. H. Johnson has been recently appointed medical officer of the U. S. coast survey steamer *Blake*.——Dr. Ralph Duffy, of the Johns Hopkins Hospital, has been appointed to a position on the staff of the West Penn Hospital, Pittsburg.

MICHIGAN.

Comparative Prevalence of Disease.—For September, compared with the average for September in the 10 previous years, pneumonia, measles and smallpox were more than usually prevalent; and consumption, cholera morbus, cholera infantum, dysentery, intermittent fever, remittent fever and erysipelas were less than usually prevalent. The unusually cold and wet weather has apparently increased the rheumatism and decreased the prevalence of diarrhea.

University Medical Department Opens.—The fifty-third year of the medical department of the University of Michigan, Ann Arbor, began, September 23, with an address by Dr. Frederick G. Novy. The new medical building is not yet completed, but is promised to be ready next month. Dr. Willis succeeds Dr. Guy L. Noyes in the chair of ophthalmology; Dr. Charles W. Edmunds becomes superintendent of the hospital, vice Dr. Clarence A. Good, and Dr. Joshua G. R. Mainwaring has been appointed house physician in place of Dr. Henry W. Clouchek. The enrolment has been very satisfactory.

Most Dangerous Communicable Diseases.—Meningitis was reported during September at 7 places; whooping cough at 32 places; smallpox at 39 places; measles at 45 places; diphtheria at 52 places; scarlet fever at 103 places; typhoid fever at 169 places, and consumption at 231 places. Reports from all sources show meningitis reported at 6 places less; whooping cough at 7 places less; smallpox at 11 places less; measles at 11 places less; diphtheria at 11 places more; scarlet fever at 11 places more; typhoid fever at 21 places more, and consumption at 4 places more, in September, than in the preceding month.

State Board of Health.—At the regular meeting, held at Lansing, October 10, Dr. Victor C. Vaughan was requested to prepare leaflets on rabies and its prevention and tetanus and its prevention, to be promulgated by the board. A leaflet was also ordered to be prepared on the resuscitation of the apparently drowned. It was decided to hold a conference of local health officials in Ann Arbor. Delegates were appointed to the conference of state and provincial boards of health and to the American Public Health Association. The secretary presented elaborate statistics relating to cancer, compiled in the state department under the direction of Dr. Wilbur, chief of vital statistics division, exhibiting the ratio of deaths in Michigan from cancer to population in each period of age, showing that the ratio has increased at all periods of age above that of thirty years. Dr. Wilbur was tendered a vote of thanks for the work, and was requested to have it published.

September Mortality of Michigan.—There were 2548 deaths returned to the Department of State during September, corresponding to a death-rate of 12.6 per 1000 per annum. This rate is slightly higher than the rate for the preceding month—11.8—but is lower than the rate for September, 1901, which was 14.1. There were 607 deaths of infants under 1 year, 219 deaths of children aged from 1 to 4 years, inclusive, and 662 deaths of individuals over 65 years of age. Important causes of death were as follows: Tuberculosis of lungs, 162; other forms of tuberculosis, 26; typhoid fever, 80; diphtheria and croup, 48; scarlet fever, 17; measles, 4; whooping cough, 24; pneumonia, 119; diarrheal diseases, under 2 years, 329; cancer, 114; accidents and violence, 152. Typhoid fever nearly doubled in mortality as compared with the preceding month, and diphtheria and pneumonia showed considerable amounts of increase. No deaths were reported from smallpox, the first month in which this has been the case since April, 1901.

Detroit.

Personal.—Dr. Burt R. Shurly, who has been abroad three months, has returned to Detroit.

Michigan College of Medicine and Surgery commenced its fall term, October 1, with an enrolment of one hundred students. Dr. Edgar B. Smith delivered the opening address.

Health Officer's Recommendations.—In his annual report, Health Officer Dr. Guy L. Kiefer makes a plea for a hospital for communicable diseases, and also urges the value of medical inspection of schools.

Detroit's Deaths.—The twenty-first annual report of the Board of Health shows that during the fiscal year 4454 deaths occurred, a death-rate of 14.60 per 1000. Diphtheria caused 48 deaths; scarlet fever 73, and smallpox 4.

Fined for Illegal Practice.—A. H. Wesley, who was arrested at Orion for illegally practicing medicine, was found guilty, October 10, and fined $50. He paid the fine rather than accept the alternative of serving sixty-five days in the county jail.

Prohibits Drug Distribution.—The Detroit Board of Health has issued an order "That no person or persons shall gratuitously distribute, or cause to be distributed, on doorsteps, in hallways or on the premises attached to any house in the city of Detroit, any medicine, drug or remedy containing a drug of any kind whatsoever, whether it be in liquid, tablet, capsule or pill form."

Adventures of Michigan Physicians.—To stimulate the imagination or the narrative faculty of the Michigan physician the Detroit *News-Tribune* offers each week the sum of $5 for an account, not to exceed 500 words, of the most remarkable

incident which has occurred to a Michigan doctor or surgeon. The incident must have happened in the writer's own experience, and in connection with his own practice. The name of the writer is not required for publication, unless he be willing, but simply for an evidence of good faith.

MISSOURI.

Addition to Hospital.—The contract for the 30-room addition to St. Joseph's Hospital, St. Joseph, has been let. The new building is expected to cost about $30,000, and is intended to accommodate private patients.

Accidents.—Dr. Thomas King, St. Joseph, was thrown from his buggy, October 13, fracturing his right arm above the elbow. ——Dr. U. B. Wingfield, Shackelford, was thrown from his buggy, October 11, breaking his left arm above the wrist and the right leg above the ankle.

Personal.—Dr. Luther P. Walbridge, St. Louis, has been appointed assistant physician under Dr. Leonidas H. Laidley, medical director of the Louisiana Purchase Exposition.——Dr. William L. Whittington, late major and surgeon U. S. Volunteers, formerly of St. Joseph, has been appointed to the medical staff of the State Hospital for the Insane, St. Joseph, vice Dr. John T. Field, deceased.

NEW YORK.

The Medical College of Syracuse University opened for registration, October 7. The faculty anticipates that there will be about 135 students in attendance.

Hospital Appointments.—Dr. Mary H. Smith, Rochester, has been appointed junior assistant physician, and Dr. Nisban A. Pashayan of the St. Lawrence State Hospital, junior physician at the Long Island State Hospital.

Dysentery as a Reported Cause of Death.—During August there was reported to be an extensive epidemic of dysentery in towns in Westchester County. This has been investigated by bacteriologists connected with the State Department Laboratory, and will be reported on later. Very likely in not a few of the cases the disease was rightly named. Epidemic dysentery is of rare occurrence in this state. Sporadic cases occur and deaths from this cause are usually reported during the summer months. During August there were 125 deaths reported as from dysentery, outside of New York City. There is no doubt that the term dysentery is very loosely used as a cause of death.

Report on Criminal Insane.—During the year ended September 30, 14 convicts, whose sentence had expired, but who still were insane, were transferred from Matteawan to other state institutions. On Oct. 1, 1901, there were 752 patients, and 59 were admitted during the year. During 1901 there were 206 discharges or transfers, reducing the number of inmates to 605. One man who escaped was captured. There were 18 deaths at the hospital in the course of the year, and 19 patients recovered their reason. The ratio of recoveries, based on the average daily population, is nearly 3 per cent. Recovery among criminal insane, especially court cases, is extremely small. Those criminals adjudged insane are compelled to endure a longer confinement than the average term in penal institutions.

Smallpox.—There were 10 deaths from smallpox in August, of which 6 were in New York City. In July there were 34 deaths, and prior to that there have been from 50 to 70 deaths monthly since last November. During July there were 285 cases of smallpox in the state in 14 localities, including New York City; in August there were 134 cases, and during September, up to the 25th, there have been reported but 45 new cases, of which 17 are outside New York City. During the summer the chief points of prevalence were Rochester, Corning, Walton, Albany and Stockport. With possible recurrence during the approaching lumbering season in the Adirondacks of the epidemics of last winter, the boards of health of all towns in which there are lumber camps are again directed and urged to enforce the requirement, under an exacted penalty, that no men be employed in them who have not been satisfactorily vaccinated. There is a general influx about this time of the year of wood choppers from outside, especially from Canada, and often from infected localities.

New College Requirements.—The secretary of the Regents of the University of the State of New York has sent out a notice to the deans of medical schools, stating the requirements for the allowance of one year in the medical course to graduates of colleges and universities. The college work, which will be recognized as entitling the holder of a baccalaureate degree to an allowance of one year, must include either the studies of the first medical year or work in general biology, physics, chemistry, Latin and French or German. The statement is made necessary by the recent law of this state, permitting graduates of colleges to finish the medical course in three years, and intrusting the interpretation of this provision to the regents. In a communication from the secretary of Cornell University Medical College, he announces that that institution was the first in the state to advance the requirements for admission in accordance with the standard of the regents, and that although the requirements were rigidly enforced, the class just entered numbered 121 as against 181 last year, demonstrating that a very satisfactory proportion of the men who wish to study medicine can obtain an education outside of the medical colleges in the natural sciences sufficient to enable them to go on with the more specialized subjects taught in the medical colleges.

Combination of State Association and State Society.—At a joint conference, held on Monday last, by the committees representing the New York State Medical Association and the Medical Society of the State of New York, it was agreed to recommend that the name of the state society and the present organization of the state association be retained and that application be made to the legislature for a new charter. The association unanimously adopted the following resolution: "That the committee be hereby continued for the purpose of co-operating with a committee from the Medical Society of the State of New York to secure a charter from the legislature at its next session, 1903, which charter shall reconstitute the two state organizations into one state body. But if the Medical Society of the State of New York shall fail to approve such plan of union by a charter to be secured at the approaching session of the legislature in 1903, then this committee shall be considered as discharged and the proposition of this association withdrawn." The state association also recommended the New York County Medical Association's present plan of medical defense. Dr. Frederick Holme Wiggin of New York was elected president, and Dr. W. H. Thornton of Buffalo vice president.

New York City.

Thousands for Hospital.—The Board of Estimate has appropriated $220,000 for the Harlem Hospital.

Smallpox at Quarantine.—One of the steamers of the Hamburg-American line is detained at quarantine because of smallpox developing among the steerage passengers.

Illegal Practitioner Fined.—James C. Magnus, doing business in West Twenty-eighth Street, was convicted of practicing medicine without a license. The penalty is $250 fine or a year's imprisonment, or both.

Carnegie Laboratory Changes Ownership.—The New York University took title yesterday from the Bellevue Hospital Medical College to the five-story Carnegie laboratory. The consideraton was nominal.

Additions to Columbia's Faculty.—Dr. L. Emmet Holt has been appointed professor of diseases of children, Dr. Walter B. James, professor of the practice of medicine, and William J. Giles, M.S., adjunct professor of physiologic chemistry.

New Hospital for Deaf Mutes.—Plans have been prepared for a new hospital in connection with the New York Institution for the Instruction of the Deaf and Dumb. The new hospital, which is to be erected on the grounds at Lafayette Boulevard and 165th Street, is to be a three-story structure, and is expected to cost $100,000.

Personal.—Dr. W. W. Van Valzah has resumed professional work at 10 West Forty-third Street, after an illness of four years.——Dr. David D. Jennings has been appointed police surgeon, vice Dr. Joseph H. O'Connell, retired.——Dr. William H. Bates, who disappeared from this city, August 30, was found a few days ago at Charing Cross Hospital, London.

Trachoma in the Schools.—According to Health Commissioner Lederle the medical inspectors have found 18 per cent. of the public school children examined suffering from trachoma. So far, 988 pupils have been excluded because of the condition of the eyes, 814 of these being in the grammar schools. The mayor has been asked for an appropriation of $21,000 to carry on the work of inspection.

Buffalo.

Typhoid Fever in Suburb.—There are many cases of typhoid fever at West Seneca, a suburb of Buffalo. Within a distance of a quarter of a mile there are 8 cases. The outbreak is due to the use of well water. There is a good water supply there now, water coming from the mains of the Depew Water

Company. The water is obtained from an intake pipe built about a mile outside the shore in Lake Erie.

Health for September.—The monthly report of the Department of Health for September shows a mortality of 410, equivalent to an annual death rate of 13.29 per 1000. Of this number 93 deaths were from communicable diseases. The principal number of deaths occurred as follows: Pulmonary consumption, 29; cholera infantum, 29; typhoid fever, 17; debility, 37; cancer, 12; apoplexy, 16; meningitis, 17; valvular disease of the heart, 27; pneumonia, 20; gastro-enteritis, 17; nephritis, 19, and violence, 21.

Personal.—Dr. Norman L. Burnham was elected secretary to the medical section of the Academy of Medicine.——A dinner was given in honor of Dr. George Dock of Ann Arbor by Dr. Charles G. Stockton, at the Saturn Club.——Dr. Floristan Aguilar of Madrid, a dentist of international fame, was the guest of Dr. William C. Barrett, dean of the dental department of University of Buffalo.——Dr. Charles Cary is in the North Woods.——Dr. Regina Flood Keyes was appointed obstetrician to the Erie County Hospital, vice Dr. Earl P. Lothrop, resigned.

GENERAL.

Manila Lepers Escape.—Nineteen lepers escaped from the San Lazaro Hospital, September 3, through the carelessness of the guards. It is said that there are many other lepers at large in Manila, who are as yet undetected because the disease is not far advanced. As it progresses, they will doubtless be discovered and segregated.

More Surgeons for the Navy.—Surgeon-General Rixey's annual report of the Navy states that the medical force is inadequate. Whereas since the Spanish war the medical corps increased only 15 per cent. in numbers, the naval strength increased 70 per cent., and the examination for re-enlistment 102 per cent. He submits a recommendation for the appointment of 150 more medical officers. He also recommends the establishment of a woman's nurse corps, numbering 50, to be increased as need arises. The report shows that the health of the Navy and Marine Corps was good throughout the past fiscal year, the percentage of sick and the death rate being lower than for several years.

Egyptian Medical Congress Representative.—Major William C. Gorgas, surgeon, U. S. A., has been designated by Surgeon-General O'Reilly to represent the United States Army at the first Egyptian Medical Congress, which will meet in Cairo, December 16. The purpose of the congress is to collect data in regard to tropical diseases and discuss means for eradicating them. Major Gorgas is an expert on tropical diseases. He was stationed at Havana during the greater part of the American occupation of Cuba, and made a special study of yellow fever. It was through his efforts that the disease was practically eradicated in Cuba. The great cholera epidemic in Egypt this summer was the main reason for the calling of the congress.

The Alvarenga Prize.—The College of Physicians of Philadelphia announces that the next award of the Alvarenga Prize, being the income for one year of the bequest of the late Senor Alvarenga, and amounting to about $180, will be made on July 14, 1903, provided that an essay deemed by the committee of award to be worthy of the prize shall have been offered. Essays intended for competition may be on any subject in medicine, but can not have been published, and must be received by the secretary of the college on or before May 1, 1903. Each essay must be sent without signature, but must be plainly marked with a motto and be accompanied by a sealed envelope having on its outside the motto of the paper and within the name and address of the author. It is a condition of competition that the successful essay or a copy of it shall remain in possession of the college; other essays will be returned on application within three months after the award. The Alvarenga prize for 1902 was not awarded, the committee having decided that no essay of sufficiently high standard was submitted in competition.

CANADA.

Personal.—Dr. James Anderson, Hamilton, Ont., is taking a special course in children's diseases in New York, and will shortly proceed to London, England, where he will continue these studies.——Dr. H. W. Thomas, Montreal, has been appointed a fellow in pathology at the Medical Faculty of McGill University. For the past three years he has been in Germany, where he was pursuing a course in comparative pathology.——Dr. W. M. Ford of McGill, Rockefeller fellow of pathology, has been appointed to the staff of the Rockefeller Institute at Chicago.——Dr. Charles O'Reilly has returned to Toronto, after attending the annual meeting of the medical superintendents of the hospitals of the United States and Canada. Dr. O'Reilly is the superintendent of the Toronto General Hospital, and was elected to the position of vice-president of the association.——Dr. and Mrs. Arthur A. Small, Toronto, have returned to Chicago to reside permanently.

Manitoba Medical Council Meets.—At the annual meeting of the council of the College of Physicians and Surgeons of Manitoba, held in Winnipeg, October 8, the following officers were elected: President, Dr. George Riddell, Crystal City; vice-president, Dr. A. J. Macdonell; treasurer, Dr. James Patterson, Winnipeg; and registrar, Dr. J. S. Gray, Winnipeg. It was decided to appropriate $1200 to improve and increase the library, which is being maintained in the interests of all licensed medical men in the province. The library is now well stocked with all the latest medical publications, and any medical man is privileged to use any of these books.

Toronto Free Consumption Hospital.—In connection with this institution a petition is now being circulated asking the City Council to submit to the electors at the coming municipal elections a by-law to provide for the raising of funds for the immediate commencement of the work of erecting the new buildings. One well-known citizen of Toronto has offered to contribute $25,000 toward the new institution. The National Sanitarium Association is at present making an urgent appeal for funds to enable it to carry on the work at the new hospital at Gravenhurst. There are now 150 patients at the two hospitals at Gravenhurst. On Thanksgiving (October 16) a dinner was organized by the two medical superintendents, Drs. J. H. Elliott and C. D. Parfitt, and a very pleasant day was spent throughout.

Judicial Decision re Nurses' Fees.—A nurse had been engaged for an expected confinement, and told to hold herself in readiness on and after a certain date. This she did, and one week after that date was called to attend the patient. Payment for her services for that week was refused, hence the suit in court. The question for decision was: Should a nurse, when engaged for a fixed date be paid for the time of waiting after that date, as well as for the time of service? The affirmative decision has given general satisfaction to the nurses and physicians in Toronto.

FOREIGN.

Retirement of Professor Neumann.—As Professor I. Neumann of Vienna has reached the academic age limit, he will retire with the current year from the chair of cutaneous affections. His successor has already been appointed, Prof. F. Mracek.

Prizes for Miners' Phthisis Remedy.—A cable from Johannesburg announces that the Chamber of Mines offers prizes of $2500, $1250 and $500 for the three best practical suggestions of how to combat miners' phthisis. This disease is caused by the dust from the drilling.

The German Medical Press Association held its annual meeting at Carlsbad, in October, and steps were taken to incorporate the association in the newly-formed international press association. The committee in charge of the matter includes Eulenburg, Posner, Spatz, Adler and Herrnheiser, representing the great weeklies.

Memorial Scholarships in Russia.—Contributions are being received at Moscow to found a series of scholarships as a memorial to the late specialist in children's diseases, Professor Filatoff. The first one has already been established. The St. Petersburg Institute for Experimental Medicine is also collecting a fund as a memorial to its recently deceased member, Prof. M. W. Nencki.

Attendance at the St. Petersburg Woman's Medical College.—There are 112 candidates for the degree of M.D., graduates of this institution. The total attendance is 1412 and the applications have been so numerous that the faculty was able to select from the "gold medal" high school graduates almost the entire body of students. Exceptions were made only in favor of those women who had already waited three to five years for admittance to the college.

The Plague at Odessa.—The city of Odessa in Russia has expended 67,000 roubles in fighting the plague, and its citizens have spent nearly half a million, while commerce, manufactures and trades have suffered great loss. The city has consequently appealed to the national government for aid, as it has reached the limit of possible expenditure in this line. Nearly $2000

was spent on the extermination of rats. There have been 35 cases of the plague, in all, with 13 deaths to September 16.

Cholera in Palestine and Egypt.—The epidemic of cholera is spreading rapidly in Palestine. The city which has suffered the most thus far is Gaza, where there have been thirty to forty deaths daily. In Egypt the disease is now well under control. Hubbard T. Smith, the acting consul-general of the United States at Cairo, telegraphed the State Department, October 11, that since October 4 there had been in all Egypt 971 new cases of cholera and that 916 persons have died of the disease.

Suicides in France, 1880-1900.—According to the statistics recently published in the *Sem. Méd.* the annual average of suicides in France from 1896 to 1900 was 23 to 100,000 inhabitants. This includes 37 men to 11 women to 100,000, an average of 7069 men and 2017 women for each of the four years. The proportion of the unmarried was 33, of the married 25, and of widowers or widows 62. The liberal professions and official positions furnished 138 and the laboring classes 25 per 100,000. The suicides attributed to insanity were twenty years ago one-third of the total number, but during the four years mentioned were only a sixth. In the nineteen years previous to 1899, the proportion was constantly progressive from 19 to 25 suicides per 100,000, but in 1900 it was only 22. The proportion of suicides in the cities was 27 to 18 per 100,000 in the country.

LONDON LETTER.

Decrease in the Population of Ireland.

The report of the Census Commissioners relating to Ireland shows that the population in 1901, including the members of the naval and military service in the country, was 4,458,775—2,200,400 males and 2,258,735 females; in 1891 it was 4,704,750—2,218,953 males and 2,385,796 females. There was, therefore, in the ten years a decrease of 245,975 persons, or 5.23 per cent. The only county in which an increase of population took place was Dublin, with 6.3 per cent. There is a marked diminution, amounting to 12.2 per cent., in the number of children and young persons under 20 years of age in 1901, as compared with 1891. The emigrants from Ireland numbered during the last decade 430,993—200,125 males and 230,868 females; in the previous decade the emigrants amounted to 768,105. The total for the past fifty years is 3,846,395 and 71.5 per cent. were between the ages of 20 and 45; 89 per cent. of the total go to America, and 6 per cent. to Great Britain.

Mosquitoes and Malaria at Ismailia.

Major Ronald Ross has completed his investigations into the causes of the prevalence of malaria at Ismailia. Unlike Lagos and Freetown, where, owing to the deluge of rain, mosquitoes find innumerable pools for their larvæ, Ismailia is situated in the midst of a desert, where a burning, dry wind shifts the sand from hillock to hillock, and covers everything with dust. How, then, if malaria is really carried by mosquitoes, can the presence of the disease be accounted for in such a place as Ismailia? The question has been answered by Drs. Dampeiron and Pressat, the physicians of the Suez Canal Company, who not only have found anopheles in infected houses in the town, but also discovered their breeding places. The subsoil water in the desert round Ismailia is so near the surface that it actually produces a little vegetation, and even something like miniature marshes are said to rise and fall with the fluctuations of the distant Nile. In most places the water is too brackish for vegetation or mosquitoes, but in a few it is fresher, and in two such close to Ismailia, and only a few hundred meters from the houses, the larvæ of the malaria-bearing anopheles were easily found. Small as the marshes are they have produced a sick rate of about 1000 cases of malaria fever a year. Ismailia itself is copiously irrigated by the fresh water canal. Major Ross, therefore, expected to find anopheles at Ismailia in the irrigation channels, but this fear proved to be unfounded. The deeper permanent channels contain swarms of fish, which render them uninhabitable for mosquito larvæ, while in the smaller channels the water is at once absorbed by the thirsty sand. Major Ross thinks that the task of exterminating the anopheles will be both easy and cheap. It is only necessary to fill up the two small marshes or to deepen them so as to admit fish. As a preliminary, on September 24, Dr. Pressat, Sir W. MacGregor and Major Ross commenced the work by having the pools treated with oil by the newly-formed "Mosquito brigade." The officials of the company will zealously continue the work, and Major Ross is confident that the town will shortly be rid of the malaria pest. Both Port Said and Ismailia have many mosquitoes of the ordinary kinds, which cause great annoyance. It has been ascertained that they breed in swamps in the subterranean cisterns provided for the drainage of the houses. Special men are to be employed to destroy the larvæ every week with oil. Malaria has also existed at the company's water works at Suez. There, again, anopheles were found in some very small puddles in a little marsh close to the water works.

Ice Cream Poisoning in London.

A report of some cases of ice cream poisoning which occurred in London recently has been issued by Dr. Collingridge, M.O.H. Eighteen boys in the telegraph department of the General Postoffice became ill in July after consuming ice cream. The symptoms were colicky pains, headache, nausea, nervous depression, and in some cases vomiting and diarrhea. Samples of ice cream purchased at the shops were submitted to Dr. Klein, F.R.S., for bacteriologic examination. Out of the 24 samples Dr. Klein reported that 13 were poisonous, as tested by inoculation of guinea-pigs. Many of the ice creams contained comparatively few organisms, and of a harmless nature. Others contained enormous numbers. Among the organisms isolated by Dr. Klein were *Bacillus mesentericus*, *Bacillus coli*, a virulent variety of *Bacillus lactis aerogenes*, some members of the proteus group of organisms, and an anaërobic bacillus unnamed. The majority of the specific pathogenic bacilli discovered in several of the samples were of a non-sporing variety, and therefore if originally present in the materials of the ice cream would have been destroyed by boiling which takes place as a part of the manufacture. Therefore it is assumed that these organisms gained access to the material while it was cooling. The subsequent freezing, while it might inhibit its growth, would certainly not destroy such a bacillus, and on ingestion and melting its growth and development would again commence. Out of the 13 samples containing organisms having an injurious effect, twelve were prepared in unsanitary premises. The majority of the manufacturers are aliens. Dr. Collingridge recommends that the condition of the premises where ice creams are prepared must be controlled and that the manufacture of the substance must be insured in such a way as to prevent contamination. This can now be done under the new legislation which gives authority to insist that freezing shall be carried out immediately after the mixture is boiled, and thus the period available for contamination shortened.

The London Hospital and Sir Frederick Treves.

The 118th session of the London Hospital Medical College has been opened by the usual old students' dinner. The chairman, Mr. E. Hurry Fenwick, in proposing the toast of the hospital, spoke of the great improvements that had lately been carried out and of the high honors that had fallen to the hospital during the past year, particularly the distinction conferred on Sir Frederick Treves, who had rendered enormous services to the king and the country. Sir Frederick Treves, in acknowledging the way in which his health had been drunk, stated that great as had been the praise bestowed on him and high as were the honors that it had pleased the king to confer on him, he owed everything to his training at the London Hospital. He rejoiced extremely that the honors brought to the London Hospital were by no means limited to himself, for the anesthetist who assisted him was the anesthetist at the London Hospital, and the nurses who carried out his directions were London Hospital nurses. The Hon. Sydney Holland (chairman of the hospital) in replying for the hospital, said that everything had been done to bring the hospital and college up to date, and they were determined to maintain them in the highest state of efficiency. Enormous strides had been made in the last few years. The isolation block was now completed at a cost of $150,000, which had been given by a friend of Sir Frederick Treves; the postmortem department, with the pathological institute attached, built at a cost of $100,000; the new operating theaters, built at a cost of $565,000; new children's wards and sterilizing department; a new out-patient department, which would be opened in two weeks, erected at a cost of $350,000, and a new convalescent home, built at a cost of $60,000.

Lavage in Vomiting of Pregnancy.—There is one disorder in particular, in which I have found drug treatment very unsatisfactory. I refer to the pernicious vomiting of pregnancy. Here lavage is our best remedy. The exact explanation of its action here I can not give, as the vomiting does not always seem to depend on the contents of the stomach. It is possible that the stomach washing has some helpful effect on the reflex nervous mechanism.—Hedback, in *St. Paul Medical Journal.*

Queries and Minor Notes.

Anonymous Communications will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish his name will be faithfully observed.

REQUIREMENTS FOR MEDICAL PRACTICE.

Knoxville, Tenn., Sept. 20, 1902.

To the Editor:—Will you kindly give me through these columns the legal requirements for practicing medicine in Arizona, Colorado, Mexico and British Columbia? J. P. W.

Ans.—In Arizona an examination and satisfactory diploma are required. In Colorado a diploma approved by the State Board of Medical Examiners. In Mexico a rigid examination in the Spanish language and elaborate identifications of the individual and his medical credentials. In British Columbia an approved diploma, identification and a satisfactory examination.

SUPPRESSION OF URINE.

Paris, Ill., Oct. 20, 1902.

To the Editor:—In the fall of 1880 Mrs. S. had complete suppression of urine. After trying diuretics for more than a week, we prescribed a glass of water every two hours, and in less than twenty-four hours her kidneys began to act. In case the stomach would not retain water. I would give a salt solution either by enema or hypodermically. Is it not possible that in Dr. Seiler's case (The Journal, October 11, p. 915) the sweating, vomiting and purging had something to do with the suppression?

W. H. Ten Broeck.

Correspondence.

Organization.

Wickliffe, Ohio, Oct. 13, 1902.

Your article on the chaotic condition of the medical profession as regards its power and influence with the public because of its lack of organization and unity is very timely and to the point. It is to be regretted that the medical profession with all its boasted learning and conceit does not command any power political or civil, compared to organized labor to-day. The profession is not so numerous but that if it were so thoroughly organized as labor, and its individual members more governed by the single-mindedness and good sense of which it boasts, it could wield a tremendous power in politics and could command any reasonable compensation it demanded for services rendered to the state, corporations or individuals. Members of the profession of theology and law far outstrip us to-day in the respect and power they command in state and civil affairs.

If this were not so we would not have the hordes of competent physicians all over the country that we have to-day struggling with poverty and coming to old age without a competence, hardly able to earn enough to live decently and educate two or three children as they ought.

I will cite the condition of the profession in Ohio to-day, which could be remedied by organization. The coroner of Lake County treats 350 lodge members for $1 a year each. He has a contract to treat the poor of a population of 2,500 people, three-fourths laboring people, for $25 per year—worth $300 to $500, also a contract with the county directors of infirmary to go a distance of nearly five miles and treat the inmates for $100 a year. Township trustees, in nearly every township in the state, farm out the poor for treatment in many instances to incompetent or unscrupulous physicians, for about $50 a year for work that if fair fees were paid would amount to anywhere from $200 to $500 a year.

The Lake Shore Railroad Company does not pay any of its local railroad surgeons, a pass being the only remuneration. At Ashtabula, Ohio, there is more than $1,000 worth of work in the yards every year. At Collinwood, where the yards of the L. S. & M. S. R. R.—the greatest shops in the world—are located, employing nearly 3,000 men, two young surgeons are paid the magnificent salary of $100 a year for tending to the accident work of all employes. The P. & W., now a branch of the B. & O., at Painesville, Ohio, where their terminal employs a large number of men, pay the surgeon $100 a year, I am told by a doctor who once held the appointment.

The writer has been doing the accidental surgery for a small steel structural plant, recently moved to this place from Cleveland. Recently I charged $1.50 for removing a speck of steel from the eye of an employe. I had also dressed a scalp wound for another employe which took more than an hour, and in which it was necessary to insert five stitches; the patient was suffering from slight concussion and the wound and hair was filled with clot and shop dirt. My bill for this was $5.

The company informed me that it had not paid more than $1 for removing bodies from the eye, nor more than $3 for dressing any scalp wound, in Cleveland. That they would pay such and such fees for such and such injuries, and hoped that I would see very clear to render services to employes at terms stipulated by them, and that if I would reduce the above rendered bill to $1 and $3 respectively, they would mail check.

The members of the profession are constantly humiliated and insulted by wealthy corporations, state, county and city officials. Why? Because, as a lawyer once said in an important case, "doctors are all a set of d—— fools," and because the profession is not organized. If the physicians of this county and Cuyahoga were organized as they should be with a uniform fee bill, having a black list and protection features, I could reply to the officers of that plant that the profession of the county had a fee bill, the terms of which I could not deviate from, and that if they did not want to pay my charges for services rendered I did not have to do the work. As it is, if I do not accept the fees the company offers, the work will go to another physician and the company knows it can get plenty of doctors to do their work for whatever they are willing to pay. What the medical profession needs is a leader, to take it out of the valley of poverty and humiliation, a Mitchell, as the miners have, or a Morgan, as the trusts have.

F. H. Todd, M.D.

Unfair Tests.

San Francisco, Oct. 11, 1902.

To the Editor:—In your editorial on "Unfair Tests," in the issue of October 4, you discuss the criticism by the *Pacific Medical Journal* of the questions in pathology submitted by the California State Board of Medical Examiners. In order that your deductions should have full value, it seems to me fair that a full knowledge of the truth of the facts in your premises should be given you. You suppose that the writer of the editorial in the *Pacific Medical Journal* is correct in stating that some were rejected for failure to answer the questions to which exception was taken—"Define cryoscopy," and "What are the characteristic lesions of Hanot's cirrhosis." First, as to the truth of this. The editor of the *Pacific Medical Journal* is dean of a recently organized medical school in San Francisco and president and manager of its board of trustees. Out of a class of 40 or more graduates from this school, 11 chosen ones took the examination; certain of the others have openly stated that they never intended to take any state examination, and our worthy governor has recently given one of these a medico-political job. Of the 11 who took the examination, 6 failed in 4 or 5 of the 9 subjects. From the other two regular schools of San Francisco represented at the examination, there were 48 candidates, and 3 failed. Only one candidate was conditioned in pathology, having obtained less than the required 60 per cent.

Secondly, over 75 per cent. of the candidates defined Hanot's cirrhosis more accurately than you have done in your editorial. This places the statement of the editor of the *Pacific Medical Journal* where it belongs. As you say yourself "from the published questions, the examinations seem eminently fair in all other respects," I think it only just to your readers to state that the examinations were particularly easy and were easily marked. A few questions may have been asked rather to test the kind of teaching done in some of the schools than to catch the students; but when a school, in this age, graduates a man who defines intussusception as "the susceptibility of some people to disease," it is time that the respectable element of the profession take steps to protect itself as well as the public by ascertaining the quality of the teaching in our institutions

and by ferreting out those who display both ignorance and defiance of the law.

Respectfully yours,

DUDLEY TAIT,
Vice-Pres. Cal State Bd. Med. Exam.

Incompetent Hospital Management.

CHICAGO, Oct. 15, 1902.

To the Editor:—My attention has been called to an article in your number of October 11 [pages 918 and 920] speaking of one of our nurses who was concerned in the late accident at the Presbyterian Hospital and stating that the nurse had been dismissed. This is not correct. She has not been dismissed, nor have we the slightest intention of dismissing her. She went home because she was very much disturbed and unstrung, as was perfectly natural, though the chief blame did not rest on her, but on the person who sent 1 gr. strychnin tablets to the ward, where the only ones usual and permitted are 1/60 grain. The fault of the nurse was only in the fact that she assumed that the tablets were the usual ones, and did not read the full label to see. Her career is not ended; she will finish her course, and no one who knows the full facts can feel anything but sympathy for her, in that she has suffered acutely, while not seriously in fault.

LUCY L. FLOWER,
President Illinois Training School for Nurses.
177 Lake View Avenue.

State Boards of Registration.

Montana Report.—Dr. William C. Riddell, secretary of the Board of Medical Examiners of Montana, reports the examination held at Helena, October 7, 8 and 9, as follows: Number of subjects, 14; questions, 70; percentage required to pass, 75; written examination; total number examined, 20; passed, 16; failed, 4.

PASSED.

Candidate.	Sch. of Pract.	College.	Year Grad.	Per cent.
1	R.	Victoria University, Canada	1876	77
18	R.	College of Phys. and Surgs., Chicago	1902	80
4	H.	Homeo. Med. Coll. of Mo., St. Louis	1898	77
5	H.	Chicago Homeopathic Med. College	1902	†75
6	R.	Rush Medical College	1889	75
9	R.	Rush Medical College	1899	82
7	R.	University of Minnesota	1897	84
10	R.	University of Minnesota	1901	81
8	R.	Marion Sims Med. Coll., St. Louis	1898	75
19	R.	Marion Sims Med. College, St. Louis	1896	*76
11	R.	Northwestern University, Chicago	1900	84
15	R.	Northwestern University, Chicago	1900	75
12	R.	McGill University	1901	85
14	R.	Bellevue Medical College	1900	79
16	R.	Kentucky School of Medicine	1902	75
17	R.	Creighton Medical College, Omaha	1902	76

FAILED.

20	R.	Missouri Medical College, St. Louis	1889	51
2	R.	College Phys. and Surgs., Keokuk	1891	68
3	R.	College Phys. and Surgs., St. Louis	1895	65
13	R.	Medico-Chirurgical Coll., Philadelphia	1893	65

†Fourth Examination.
*Second examination.

Thirty States Will Reciprocate.—President J. R. Currens, of the Wisconsin Board of Medical Examiners, announces for the Federation of Reciprocal Examining Boards that probably thirty states will unite in the arrangements. The next meeting is to be held in Chicago in November.

Ohio Board Revokes Licenses.—The Ohio State Board of Medical Registration and Examination revoked the licenses of Drs. A. E. Hoskinson and Charles F. Cookes of Columbus, October 7, for alleged criminal malpractice. It is stated that the state's attorney will follow this with prosecution in the criminal courts.

Western States to Reciprocate.—Following a call from the Kansas and Missouri boards, representatives from Iowa and Nebraska met with them October 15 at Kansas City and discussed reciprocal recognition of certificates. A further meeting will be held, November 17, at Kansas City. Illinois, Texas, Colorado, Arkansas, Oklahoma and New Mexico are also asked to join in the arrangements.

Photographs to be Shown in Missouri.—The State Board of Health has decided to require photographic identification of candidates, because of several attempts at impersonation of other persons they allege to have occurred. The board was in session October 15 and 16. It is stated that the license to practice of Dr. Lyman B. Powell was revoked on the alleged ground of habitual drunkenness. Other cases of unprofessional conduct were before the board, but not acted on.

Utah to Reciprocate.—At the quarterly meeting, October 7, of the Utah Board of Medical Examiners, a resolution was passed instructing the secretary to communicate with medical boards of other states with a view to a reciprocal acceptance of certificates of efficiency to practice medicine and surgery. Another resolution was passed to notify all such as use the title of doctor without warrant that they will be prosecuted therefore under the state statute covering this offense.

Miscellany.

The Indiana Practice Law.

The Supreme Court of Indiana has just given out a decision that seems to settle the status of the practice law of that state as regards a large class of irregular practitioners. One Parks, a "magnetic healer," was convicted in the Lawrence County Circuit Court of violating the medical law. He advertised himself as professor and magnetic healer, was not a graduate of any school of medicine and had no license. His treatment, so far as there was anything manual about it, consisted in holding the affected parts and rubbing. The court's decision affirms the validity of the indictment and of the statute which had been challenged by the appellant, the latter as a proper application of the police powers of the state. It says:

It appears from the evidence that at the time in question the appellant practiced magnetic healing, and had done so for eight years prior thereto; that he did not use medicines or surgery; that he held himself out as a magnetic healer, advertised as such, and styled himself "professor"; that he was not a graduate of any school of medicine and had no license; that he diagnosed cases entirely by the nerves; that on April 8, 1901, one Edward Garvey came to him, to be treated for a lame ankle; that after examining the ankle appellant diagnosed the case as rheumatism, and proceeded to give him treatment, which consisted, at least in so far as there was anything manual about it, in holding the affected parts and rubbing them. An effort on the part of the appellant, while testifying as a witness, to describe magnetic healing was prefaced by the statement that "it is pretty hard to describe for people to understand." At this point he was interrupted by the court, and the subject does not seem to have been pursued further. Appellant charged and received one dollar for the treatment that he gave said Garvey. There can be no question as to the appellant's guilt, if the act under which he was convicted is valid.

For hundreds of years the matter of the conservation of the public health has been a leading matter of police control. If a man holds himself out to the community as a person skilled in the science of healing and on that ground seeks the opportunity to exercise the skill he claims to possess, his business becomes impressed with a public character, and he is therefore subject to reasonable regulation in its prosecution.

The limitations of the police power by the Federal Constitution, especially as regards discrimination against personal rights, are discussed by the court, which says:

Counsel for appellant denounce the law in question as "an attempt to determine a question of science and control the personal conduct of the citizen without regard to his opinion, and in a matter in which the public is in no wise concerned." We think, on the contrary, that the matter is one of very considerable concern, and that the legislature is the appropriate tribunal to determine the degree of learning that those who gain a livelihood by seeking to relieve the bodily ailments of others should possess. While it is true that the often-quoted definition of police power afforded by Chief Justice Shaw, in Commonwealth v. Alger, 7 Cush. 85, contains the limitation that such laws must be wholesome and reasonable, yet it is evident, as the power to enact laws has been confided to the legislative department, that a very large measure of authority is vested in that department to determine what is reasonable and wholesome in the enactment of statutes under the police power. The courts would never venture to run a race of opinion with the legislature on questions of mere expediency. Such a course would be a gross judicial usurpation of power.

The title of the medical practice act was claimed to be insufficient as not in accordance with the constitutional provision that every act shall embrace but one subject and matters properly connected therewith, which subject shall be expressed in the title. This claim is disposed of by the court, which says:

We do not think that there is involved in this case a question as to the authority of the legislature to discriminate against a particular school of practitioners. We are not judicially advised that magnetic healing, so-called, is so far based on coördinated, arranged and systematized knowledge that it can be termed a science, or that any considerable degree of instruction is a prerequisite to its prosecution as it is actually practiced by those whose knowledge does not go beyond the manifestation of the phenomena of magnetism. It may have been the judgment of the legislature in its implied exclusion of appellant, that both the limitations of value that the treatment possessed and the dangers attending it made it wise to confine its use to a body of men in whose hands it would be safer to entrust it, because of their education in subjects relevant to its administration.

The legislature, in judging of a matter of this kind, was authorized to give heed to the opinions of scientific men, and, presuming that it did so, it doubtless found substantial reason for the act of exclusion complained of. Judged by such authority, it appears that while the practice of magnetic healing is based on some elements of ascertained knowledge, yet that its prosecution is attended with danger to such a degree that the legislature was justified in its effort to take it out of the hands of empirics. Thus, J. G. McKendrick, professor of the institutes of medicine, University of Glasgow, in concluding his learned article on "Animal Magnetism," in the Encyclopedia Britannica, says: "It is evident that animal magnetism or hypnotism is a peculiar physiological condition excited by perverted action of certain parts of the cerebral nervous organs, and that it is not caused by any occult force, emanating from the operator. Whilst all the phenomena can not be accounted for, owing to the imperfect knowledge we possess of the functions of the brain and cord, enough has been stated to show that just in proportion as our knowledge has increased has it been possible to give a rational explanation of the phenomena. It is also clear that the perverted condition of the nervous apparatus in hypnotism is of a serious character, and therefore that these experiments should not be performed by ignorant empirics for the sake of gain, or with a view of causing amusement. Nervous persons may be seriously injured by being subjected to such experiments, more especially if they undergo them repeatedly, and it should be illegal to have public exhibitions of the kind alluded to. The medical profession has always been rightly jealous of the employment of hypnotism, in the treatment of disease, both from the fear of the effects of such operations on the nervous systems of excitable people, and because such practice is in the borderland of quackery and of imposture. Still, in the hands of skillful men, there is no reason why the proper employment of a method influencing the nervous system so powerfully as hypnotism should not be the means of relieving pain or of remedying disease."

As appellant was without the license provided for by statute, it may be presumed that he was engaged in empiricism, which is defined as a practice of medicine, using that term in its popular sense, founded on mere experience, without the aid of science or a knowledge of its principles. The state has by no means denied the right to seek to relieve persons afflicted with rheumatism by the process of manipulating and kneading the diseased or affected parts, with or without the element of hypnotic suggestion, but the legislature has sought to deny to all persons the right to do the acts denominated by statute as "engaging in the practice of medicine" unless they possess the certificate required.

The statute in question, in its general scope, goes no further than to establish a standard that may be attained by reasonable application, and the means has an appropriate relation to the end. There is plainly, as applied to the case in hand, no arbitrary or unreasonable deprivation of right.

There is a very possible broad construction that can be placed on these remarks and even Eddyites might, it seems, at least to a non-lawyer, be brought under the same head of illegal practitioners as the magnetic healers. They have the same notice under the law of what is required, and the title C.S.D. used by them and the functions it advertises and implies would seem to bring them under the definition of the practice of medicine in the Indiana law.

X-Rays Detect Forgery.—According to the *Journal of Medicine*, a man placed under arrest for illegal practice of medicine, claiming to be a graduate of an American college, presented a diploma which excited suspicion. The Roentgen rays revealed the outlines of a name erased to make room for that of the man who was thus convicted.—*Toledo Med. and Surg. Reporter.*

Marriages.

John H. Pryor, M.D., to Mrs. Elizabeth Mayer, both of Buffalo, October 9.

Thomas P. Gray, M.D., to Miss Mary Head, both of Waverly, Ky., September 24.

Chester R. Ogden, M.D., to Miss Edna E. Louchery, both of Clarksburg, W. Va.

Edward Cunat, M.D., to Miss Rose Marie Humpal, both of Chicago, October 15.

Edmund P. Staff, M.D., to Miss Laura Shutt, both of Ramsey, Ill., October 5.

Louis John Beyer, M.D., to Miss Minna Helen Berz, both of Buffalo, September 30.

Archie A. Bee, M.D., Cairo, W. Va., to Miss Jessie Ollom of Belpre, W. Va., October 2.

Jacob S. Otto, M.D., to Miss Elizabeth Townsend Wheeler, both of Buffalo, October 15.

William H. Bell, M.D., U. S. N., to Miss Eleanor York Parker, Philadelphia, October 15.

Haywood S. Hansell, M.D., to Miss Susan Mildred Wilson, both of Atlanta, Ga., October 22.

Joseph P. F. Burke, M.D., to Miss Evelyn Mary Mooney, both of Buffalo, Wednesday, October 8.

Howard Fletcher, M.D., to Miss Mattie Leigh Powell, both of Richmond, Va., at Towson, Md., October 8.

Edward S. Everett, M.D., Lacon, Ill., to Miss Maria Wetzel of Sparland, Ill., at Peoria, Ill., October 2.

John H. Nichols, M.D., superintendent of the State Hospital, Tewkesbury, Mass., to Miss Ada Howe of Danvers, Mass., October 2.

Deaths.

Aaron Mercer Brown, M.D., died at his home in Cincinnati, October 3, aged 63, from edema of the lungs, superinduced by uremia. He was born at Milford, Ohio, where his father and grandfather had practiced medicine before him. He received his medical degree from the University of Pennsylvania in 1861. He was appointed assistant surgeon of the Twenty-second Ohio Volunteer Infantry in 1861, was promoted to be staff surgeon in 1864, and transferred to the Department of Arkansas, of which he was medical purveyor at the close of the war. He was a member of the Cincinnati Academy of Medicine and of the Ohio State Medical Society.

James J. Powers, M.D. College of Physicians and Surgeons, Baltimore, 1882, a popular and successful physician of Denver, died at Santa Monica, Cal., October 3, aged 45. He was a member of the Denver and Arapahoe Medical Society, the Colorado State Medical Society and the American Medical Association.

J. Edwin Miller, M.D. Jefferson Medical College, Philadelphia, 1870, died, October 6, as a result of a bullet wound received at Chancellorville in the Civil war. He was at one time a surgeon in the United States Navy, but for the past twenty-five years has been prominent in private practice.

Albert Potter, M.D. Harvard University Medical School, Boston, 1855, who served during the Civil war as assistant surgeon and surgeon of the Fifth Rhode Island Heavy Artillery, died at his home in Chepachet, R. I., October 2, from apoplexy, aged 71.

Lucian L. Bedell, M.D. University of the State of Missouri, Columbia, 1855, at one time a noted surgeon of Denver, died in the insane ward at the Arapahoe County Hospital, October 5, after an illness of more than four months, aged 72.

E. P. Miller, M.D. Kentucky School of Medicine, Louisville, 1892, a member of the Moultrie County Medical Society, died at his home in Sullivan, Ill., October 7, from typhoid fever, after an illness of about six weeks, aged 37.

John W. Taylor, M.D. University of Pennsylvania, Philadelphia, 1849, widely-known throughout Madison County, Va., died at his home in Madison Courthouse, October 4, after an illness of several weeks, aged 76.

Leslie E. Moyers, M.D. College of Physicians and Surgeons, Chicago, 1889, a practitioner of Fairdale, Ill., died at Colorado Springs, Colo., September 2, from consumption, aged 38.

T. T. Orendorff, M.D. Kentucky School of Medicine, Louisville, 1871, died at his home in Rolling Fork, Miss., October 3, from dysentery, after an illness of ten days, aged 55.

E. S. Davidson, M.D., surgeon to the La Pointe Indian Agency of Minnesota and Wisconsin, died at Ashland, from the effects of an overdose of chloral hydrate, October 4.

Hartwig Runge, M.D. University of Berlin, Germany, 1842, a well-known physician of Stillwater, Minn., died at his home in that city, October 5, from apoplexy, aged 89.

William E. Doughty, M.D. University of Pennsylvania, Philadelphia, 1868, died at his home in Hartsville, Pa., October 15, from carcinoma of the stomach.

Herbert B. Beegle, M.D. Rush Medical College, Chicago, 1896, died at Chicago, September 23, from typhoid fever, aged 32.

D. C. Andrews, M.D., who practiced in Pike County, Ill., for a number of years, died at Eureka, Kan., September 25, aged 80.

Joseph L. Conway, M.D. Rush Medical College, Chicago, 1900, died at the home of his parents in Chicago, October 7, aged 24.

Frank W. Whitehead, M.D. College of Physicians and Surgeons, Baltimore, died at Suffolk, Va., October 6, aged 31.

Deaths Abroad.

Dr. E. Meyer, a well-known ophthalmologist of Paris, author of a popular manual and collaborator on the *Revue d'Ophthalmologie.*——**Dr. J. G. Rasch,** at Fredrikshald, Norway, September 27, in his seventy-second year. He was co-

editor of the *Tidsskrift f. d. Norske Laegef.* at one time, and has been prominent in matters affecting the welfare of the profession.——**Dr. Leo Kaplan,** author of numerous articles on the histology of nervous affections, at the Herzberg asylum, of which he had charge.——**Dr. G. v. Glossler,** at Danzig, formerly "Cultus-Minister" of the German empire.——**Prof. A. Sigel,** at Stuttgart, director of the Olga Children's Hospital.

Societies.

COMING MEETINGS.

Conference State and Provincial Boards of Health of North America, New Haven, Conn., Oct. 28-29, 1902.
Oklahoma Territory Medical Association, Guthrie, Nov. 11, 1902.
Southern Surgical and Gynecological Association, Cincinnati, Nov. 12-14, 1902.

Christian County (Ill.) Medical Society.—The physicians of this county held a meeting at Taylorville and effected a temporary organization.

Southeastern Iowa Medical Association will meet at Fairfield, Iowa, November 20, under the presidency of Dr. Charles F. Wahrer, Fort Madison, Iowa. Dr. Carl Stutsman, Burlington, is secretary.

Holyoke (Mass.) Medical Association.—The annual meeting of this society was held, October 6. Dr. Daniel F. Donoghue was elected president; Dr. Joseph H. Potts, vice-president, and Dr. Jesse L. Bliss, secretary and treasurer.

Goodhue County (Minn.) Medical Society.—The physicians of Goodhue County have organized this society at Red Wing with the following officers: President, Dr. Charles Hill, Pine Island; vice-presidents, Drs. B. Jaehnig, Red Wing, and Joseph A. Gates, Kenyon, and secretary and treasurer, Dr. John V. Anderson, Red Wing.

Austin Flint-Cedar Valley (Minn.) Medical Society.—At Waverly, Iowa, on October 14, these two old and honored medical societies were merged into one. The officers of the new societies are: Dr. Dallas M. Wick, Cedar Falls, president; Dr. Fred W. Powers, Reinbeck, vice-president; Dr. William A. Rohlf, Waverly, secretary, and Dr. John C. Wright, Clear Lake, treasurer.

East Tennessee Medical Society.—This society met at Morristown, September 25, in twelfth annual session. Dr. William A. Applegate, Chattanooga, was elected president; Dr. George M. Peavler, Bristol, vice-president; Dr. Charles J. Broyles, Johnson City, secretary, and Dr. William J. Matthews, Johnson City, treasurer. The next meeting will be held at Knoxville, in September, 1903.

Eaton County (Mich.) Medical Society.—Dr. Albert E. Bulson, Jackson, president of the Michigan State Medical Society, and Dr. William H. Haughey, Battle Creek, met with the doctors of Eaton County at Charlotte, October 2, for the purpose of forming a county organization. Dr. Bulson briefly explained the objects of the association, a temporary chairman and secretary were chosen and a constitution and by-laws formulated and adopted.

North St. Louis (Mo.) Medical Society.—At the annual meeting of this society, Dr. Hugo Summa was elected president; Dr. Herman L. Weiterer, vice-president; Dr. Henry J. C. Sieving, secretary; Dr. William T. Hirschi, corresponding secretary, and Dr. Frederick S. Haeberle, treasurer. The second meeting of the society was devoted to the memory of Professor Virchow. The principal addresses were delivered by Drs. Hugo W. Bartscher, Frederick S. Haeberle and Hugo Summa.

Muhlenburg County (Ky.) Medical Society.—The physicians of Muhlenburg County met at Central City, October 10, and after a talk by Dr. McCormack on the advantages of organization, formed a county society, of which Dr. J. T. Woodburn, Bremen, was elected president; Dr. Thomas G. Turner, Dunmor, vice-president, and Dr. Augustus Lewis, Greenville, secretary. The constitution and by-laws suggested by the American Medical Association were adopted. The society will meet monthly.

Todd County (Ky.) Medical Society.—The physicians of Todd County met at Elkton, October 11, to consider the advisability of organizing a county society. Dr. J. A. McCormack made a talk on the benefits, scientific and material, to be derived from properly-sustained local organization, and it was unanimously decided to form a society, of which Dr. W. B. Jefferson, Elkton, was elected president, Dr. Robert M. Frey, Trenton, vice-president, and Dr. Thomas E. Bruce, Elkton, secretary. Meetings will be held monthly.

Union Medica Hispano-Americana.—An association with the above name has recently been organized at Madrid with the intention of uniting in an international organization the physicians and surgeons of the Spanish-speaking countries. A special session will be held at the same time and place as the great international medical congresses. The first regular meeting of the association has been appointed for May 1, 1903, at Madrid. J. Callejo is president and J. Decref secretary. Further details can be obtained by addressing the latter at Madrid, Calle de Atocha, 106.

Hodgen District (Mo.) Medical Society.—This society, composed of physicians of the counties of Cass, Bates and Vernon, met at Nevada, October 2, and by unanimous vote decided to reorganize in conformity with the provisions suggested by the Medical Association of the State of Missouri. A committee on constitution and by-laws was appointed to report at next meeting, to be held at Butler, Jan. 1, 1903. The following officers were elected for the ensuing year: President, Dr. J. Robert Buchanan, Nevada; vice-presidents, Drs. Ira Smith, Austin, Cass County; Dr. T. C. Boulwan, Butler, Bates County, and Edgar A. Dulin, Nevada, Vernon County, and secretary-treasurer, Dr. H. A. Rhodes of Bates County.

Toronto Clinical Society.—The first meeting of the Toronto Clinical Society for the season 1902-03 was held October 8. Dr. Edmund E. King, the president, delivered the annual address. After referring to the importance and work of the society, Dr. King discussed the surgery of the prostate gland. He first spoke of the development of the gland, its quiescent state, the changes that are liable to occur in it, and then detailed some of the means devised for the relief of those changes. The pioneer in this branch of surgery was Sir Henry Thompson, and so thorough was his work that we still accept his data as true. We are, however, advancing on the point of surgical interference. Referring to the unsettled question of the cause of prostatic hypertrophy, the author believes that the senile theory is the least tenable, as there are many instances on record of large, true hypertrophies existing before the age of 30. Dr. King has had under his care during the past 5 years many cases of enlargement of the prostate accompanying seminal vesiculitis, in which the gland shrunk back to normal size after the seminal vesiculitis was cured. To him it is clear that the chronic inflammation of the vesicles is responsible for the prostatic enlargement. Although the condition present in these cases may not be true hypertrophy, he believes it to be the beginning of chronic true hypertrophy. He divides the treatment into palliative and radical. He discussed the palliative treatment under four heads: The constant use of the catheter; perineal drainage, through retained tube; suprapubic puncture with retained tube and suprapubic cystotomy with retained tube. As regards the radical relief Dr. King referred to fifteen different ways of remedying the condition. Dr. King then dealt in detail with the several methods and their authors. He looks forward to a rapid advance in this branch of surgery in the near future. A case of excision of the right shoulder for myeloid sarcoma in a girl of eleven years was next reported by Dr. G. Silverthorn, who also presented the patient. The patient now has a fair amount of control of the arm. The points Dr. Silverthorn wished to emphasize were, first, the possibility of spontaneous fracture as a cause of pain and tenderness; second, that there are sarcomata that do not bleed freely on being disturbed; and third, that myeloid sarcomata are the least malignant of all the sarcomata, some authorities going so far as to say that myeloid sarcomata never give rise to secondary deposits, either in lymphatic glands or viscera. Dr. D. J. Gibb Wishart addressed the society on nose building with paraffin, reporting a case successfully operated on.

MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

Proceedings of the Twenty-Eighth Annual Meeting, held at Kansas City, Mo., Oct. 15 to 17, 1902.

Under the presidency of Dr. S. P. Collings, Hot Springs, Ark.

The Relationship Syphilis Bears to the Body Politic.

This was the title of the presidential address. His reasons for selecting this subject were: First, the importance of calling attention constantly to a disease so widespread as syphilis; second, it is a disease which by proper education concerning its frequent occurrence and its various modes of transmission can be controlled more effectively than most diseases, and, thirdly,

for the past twenty-five years he had been a daily observer of its frightful ravages on society. The history of syphilis is so closely interwoven with the history of the world that it is difficult to disassociate one from the other. The prevention of the spread of syphilis, in the author's opinion, by educating the public more thoroughly, as it is being educated concerning the communicability and modes of transmission of tuberculosis, should be more vigorously advocated. The public, however, must first be willing to learn before it can be taught.

In our day the prohibition of prostitution is not practical. Regulation of the vice has proved ineffectual in controlling its spread. If it is legalized, the men frequenting the houses should be subjected to the same rules in regard to examination that the unfortunate inmates are subjected to. Syphilis is prolific of harm to humanity; its dire results are far-reaching; it is no respecter of persons, being as vicious in the palace as in the hovel, and physicians can do more by educating their patients than all the laws that had been or will be enacted can do to prevent its spread.

The association divided its scientific work into two sections, medical and surgical.

Typhoid Fever: Its Antiseptic Treatment.

Dr. James Billingslea, Baltimore, during the past year had treated in private and hospital practice 150 cases of typhoid fever, with acetozone, and the results had surpassed his expectations, not a single death having occurred.

The special treatment consisted in dissolving 15 to 20 grains of acetozone powder—equal to 7½ or 10 grains of the benzoyl-acetyl-peroxid—in a quart of water and giving the patient this amount to drink in the twenty-four hours, both in water and in milk, diluting the milk one part of acetozone solution to three parts of milk. The action of the drug would be materially aided by administering a mild saline laxative, say sodium phosphate or magnesium sulphate, every other day.

Dr. Wm. F. Barclay, Pittsburg, Pa., had given for years a solution of acetate of ammonia, administering one or two drams every three hours during the day, with quinin at night, if indicated. He excluded milk as a diet, believing that it was dangerous.

Dr. John M. Batten, Downingstown, Pa., believed that large doses of quinin were dangerous. The antiseptic plan of treatment prevented autointoxication.

Dr. John J. Taylor, Streator, Ill., had used acetozone for the last three years in typhoid fever, and considered it a valuable antiseptic.

What Class of Pulmonary Cases Do Well in Colorado?

Dr. W. A. Campbell, Colorado Springs, gave an analysis of 250 cases, whose average age was 29 4/5 years. Sex or social station made no difference in physical condition or result. Twenty-nine states and five foreign countries furnished the cases. Those with tubercular family history did not do as well as the non-tubercular. The percentage of benefited decreased as the duration of the disease increased. The right lung was involved alone oftener than the left. The percentage of benefited was slightly in favor of the right lung. Where both lungs were involved, the mortality was 50 per cent. In the first stage cases 92 per cent. were benefited; in the second stage, 54 per cent.; in the third stage, 13 per cent. Hemorrhage occurring in the first stage of the disease is no contraindication to residence in high altitude. The diminished arterial tension and dilatation of external capillaries due to lessened atmospheric pressure makes it safe for hemorrhagic cases to seek a higher altitude. He would not send cases of acute miliary tuberculosis of phthisis florida to high altitudes. Neither would he send those extremely nervous, with an irregular or rapid heart and high temperature. Cases well advanced, with rapidly breaking-down lung, or those having cardiac dilatation or acute endocarditis or myocarditis, or Bright's disease should not come. Cardiac murmurs were no contraindication if compensation had taken place. Advanced laryngeal or intestinal cases did not do well. He would have patients come with sufficient money to support themselves on good food until acclimated and improvement was well advanced. In conclusion, he cited the high percentage of benefited in the first stage, and made an appeal for the early detection and early protection of the tubercular subject.

Digestive Disorders in Consumption, with Notes on Mixed Infections.

Dr. Paul Paquin, Asheville, N. C., regarded consumption as a mixed infection. The most vital question is that of nourishment, whereon one might base such measures of treatment as might be deemed best for restoration. Without nourishment of a sufficient kind in quantity and quality, nothing would avail in therapeutics. Among the local measures are stomach and high intestinal lavage. He had known patients who were declining steadily from the ravages of consumption and dyspepsia to gain from two to four pounds a week after the beginning of weekly or semi-weekly lavage of the stomach alone. As specific measures, serotherapy, the cacodylates and iodin offered the greatest aid in preventing organic changes. Immunizing and antitubercle serum was effective, because it was antagonistic to the tubercle toxins, which were, in a large measure, responsible for such lesions. Mixed infections in tuberculosis offered the greatest complexity in the dyspepsia accompanying them. He thought it was due to the effect of a combination of the numerous kinds of germ poisons produced in such cases, both in the lungs and alimentary canal.

Excellent Results in the Treatment of Disease, Especially Tuberculosis, by the Use of the Ultra-Violet Ray.

Dr. Albert E. Sterne, Indianapolis, read this paper. His conclusions are: 1. Actinic rays are chemical in their quality, but of small caloric value. 2. They exist mainly in the ultra-violet zone of the spectrum. 3. Actinic rays derived from high power electric lights are similar or identical to those of solar origin. 4. Their use is as rational as sunlight itself. 5. Their value lies in their decomposing, but, at the same time, reconstructive, molecular action on the body tissues, mainly the blood elements. 6. Their activity is enhanced by the generation of ozone in free and nascent form. 7. Their ultimate effect is one of oxidation, and consequently they increase the metabolic changes, thereby augmenting the natural processes of regeneration within the system. 8. Their germicidal action is especially pronounced, on account of the fact that germs can exist in the presence of free or nascent oxygen in either bi- or tri-anatomic form.

Sanatorium Treatment of Pulmonary Tuberculosis, and How It May Be Carried Out at Home.

Dr. Robert H. Babcock, Chicago, discussed this phase of the subject. He divided the sanatorium treatment into four classes: Pure air, nourishment or forced feeding, hydrotherapy, and a strict régime or control of the patient's daily life. The open-air treatment was obtained by the patient being exposed on a balcony or in properly-constructed shutters where he was protected from cold winds and elements, and kept in the open air, sometimes even when the temperature was as low as 13 degrees below zero. Among the conditions which indicated rest in the open air were progressive loss of weight and cardiac asthenia. When patients had passed out of the stage in which these conditions existed, were convalescing, then exercise was permitted, the exercise being carefully determined by the medical attendant. The nourishment of the patient was carefully selected, not only with reference to a proper proportion of proteids, which should be large, but also included the proper amount of carbohydrates. Milk, raw eggs, meat, and its varieties, poultry and fish, etc., were the articles on which reliance was chiefly placed.

Hydrotherapy played an important part in the treatment. Hydrotherapy was applied for the purpose of stimulating nutrition, toning up the circulatory system, and overcoming the hypersensitiveness of the skin, which existed in so many tuberculous patients.

As to the control of the patient, a very important element in treatment, every patient should be controlled from the time he got up in the morning until he went to bed, and this was done by the supervision of a skilful medical attendant and nurses. The temperature was carefully recorded, and even

the recreations in which they indulged were carefully selected by the medical attendants, with a view to the prevention of excitement, for even mental emotion was deleterious to many of these patients.

Dr. Babcock detailed the home treatment at considerable length, saying that the majority of medical practitioners were not fully alive to the importance and value of this treatment, and were not properly instructed in the details or method.

Tent Life in the Treatment of Tuberculosis.

DR. A. MANSFIELD HOLMES, Denver, after an extended experience with tent life in Colorado, felt justified in making the following deductions: It increased the appetite; improved nutrition; diminished cough; night sweats ceased; sleep was improved; weight increased; fever decreased and the tendency to take cold was diminished.

How Not To Be Nervous.

The address in medicine was delivered by DR. HUGH T. PATRICK, Chicago, who stated that the initiative of all therapeutics should be prophylaxis. To be able to present a specific illustration of the force of inheritance in the genesis of functional nervous affection, he had tabulated from his office records 100 consecutive cases which might be included under the general term nervousness, and he found that in 70 per cent. of them a neurotic heredity had been in evidence. While a bad heredity was the most frequent and most potent factor in the production of nervousness, knowledge of this fact should not lead the profession into apathetic resignation, but rather make it face the difficulty with wise determination. Next to inheritance came the never-ceasing formative power of environment. Reaction to extraneous influences began at birth, and ceased only with the extinction of life, but childhood and youth were the plastic stages. For preventing nervousness in the child or removing that already present, Patrick thought that there was nothing so effective as the toughening of the body and mind. A child who was made to have tough muscles, strong lungs and a vigorous digestion; who could stand changes of temperature and endure pain, was already a long way from nervousness. More important still was toughness of psychic fiber. The child who could support disappointment, who could be crossed without a tantrum, and who habitually obeyed, was building a bulwark against nerves, and the one who was not easily frightened, had self-control and a budding courage had nipped half a dozen neuroses in the bud. But to procure this toughness a certain exposure to bodily discomfort and mental hardship was necessary.

The author discussed at length the prophylaxis of the neuroses in children, and then passed on to the consideration of adult life. He said a deal of nervousness was caused or helped along by misdirected energy, misplaced worry, longing for baubles, the fighting of phantoms, etc. To recognize the important things in life was one of the most difficult tasks of judgment that came to the individual.

To sum it all up, the author said: "If you wish never to be nervous, live with reason, have a purpose in life and work for it; play joyously; strive for the unattainable, never regret the unalterable; be not annoyed by trifles; aim to attain neither great knowledge nor great riches, but unlimited common sense; be not self-centered, but love the good, and thy neighbor as thyself."

Neurasthenia.

DR. GEORGE F. BUTLER, Alma, Mich., said neurasthenia was the expression of nerve tire of the central nervous system and its consequences. Nerve tire of the central nervous system implies acceleration of the action of the excitomotor ganglia of the organ, with first, increased functionating of these organs, and, second, exhaustion with its consequences. In this way central nerve tire, finding expression along the line of least resistance, produces local organ expressions which were claimed as the cause of the constitutional condition. From these local expressions a vicious circle often results which aggravates the original condition. As overaction of the organs implies underelimination, autotoxemia, of necessity, follows nerve tire, of a very poisonous type, like all products of nerve waste. From this, renal and hepatic disturbances are added to the clinical picture and intensify its blackness. Neurasthenia may occur alone, or may be an expression and complication of any constitutional disorder. In such case both the nerve tire and the constitutional disorder require treatment. The neurasthenia resultant on phthisis, nephritis, diabetes and syphilis is a true neurasthenia which, if not treated, intensifies the disorder which gave it birth.

The treatment of neurasthenia consists in the relief of the nerve tire and conditions underlying it through proper diet, hydrotherapy, balneotherapy, relief of insomnia and removal from an etiologic environment. Neurasthenia untreated may produce degenerate offspring, especially if the patient be a woman.

The Criminal Responsibility of the Epileptic.

DR. JOHN PUNTON, Kansas City., Mo., drew the following deductions: 1. Epilepsy is a symptom of some brain disease. 2. Its continual presence tends toward mental deterioration. 3. The mental responsibiiity of the epileptic depends on the extent to which mind or self-control has been impaired by the epilepsy. 4. The legal test of insanity is not sufficient as mental irresponsibility is not incompatible with a knowledge of right from wrong. 5. Epileptics are to some degree, at least, responsible for criminal acts, more especially when the epilepsy is produced by their own default. 6. Criminal acts of epileptics appeal to medicine rather than law for their proper adjudication. 7. In all cases of murder where epilepsy is proven, the law should be amended to allow of life commitment to an insane asylum rather than to a penitentiary. 8. The mental responsibility of the epileptic in case of murder should be referred to a medical commission appointed by the court, which again may be referred to local or county medical societies to name its members.

Sudden Atrophic Influence of Craniospinal Nerves.

DR. F. E. COULTER, Omaha, reported a case and described the areas involved. He said that under certain conditions craniospinal nerves may exercise a sudden atrophic influence on the skin and the appendages thereof.

Eye Diseases.

DR. JAMES BALL, St. Louis, discussed the diagnosis, symptoms, etiology, prognosis and treatment of sympathetic irritation.

DR. J. W. SHERER, Kansas City, followed with a paper on "Toxic Amblyopia." Five cases of toxic amblyopia from methyl alcohol had been seen by him. The eyes appeared normal externally, with pupils slightly dilated. The media were clear. There were no hemorrhages. Early there were no fundal signs, but later atrophy was visible. The fields were contracted and showed absolute central scotomata. Pathologically, the condition was that of peripheral neuritis affecting the optic nerves or retro-bulbar optic neuritis.

A paper on "Bilateral Glaucoma" was presented by DR. FLAVEL B. TIFFANY, Kansas City, in which he reported the case of a patient on whom he performed double iridectomy.

Diseases Preceding and Following the Use of Alcohol and Opium.

DR. T. D. CROTHERS, Hartford, Conn., said clinical study pointed out many distinct lines of disease which preceded inebriety, of which syphilis, trauma, dementia and toxic states were most common. Neurasthenic conditions and tubercular diatheses preceded the use of spirits. Atrophic and hypertrophic sclerosis always followed the use of spirits. An early recognition of the organic changes which preceded and emerged into inebriety would enable one to practically prevent the disease.

Treatment of Typhoid Fever with Castor Oil.

DR. C. C. BASS, Columbia, Miss., reported 32 cases. The results were very gratifying. He commended this treatment as worthy of further investigation.

Culture of Infusoria.

DR. HENRY G. GRAHAM, Chicago, made these deductions: Culture of infusoria will show that: 1. Müller's dust corpuscles are elementary infusoria. 2. The exceedingly minute and actively motile forms are derived from the protozoa.

Pneumonia.

DRS. WM. T. ENGLISH and WM. F. BARCLAY, Pittsburg, Pa., contributed papers on this subject. The latter believed a rational treatment was based on a study of the immediate causes of death, as concluded in a large number of deaths reported in the city of Pittsburg. Heart failure and exhaustion stood out as the immediate cause of death in 98 per cent. of all reported deaths in a circumscribed area of almost one million people. Rest in bed in well-ventilated rooms, apart from atmospheric conditions, was of paramount importance. He had learned from experience that a most decided course of medication was indicated in the treatment of pneumonia, and that a like course of treatment in cases of la grippe robbed the disease of its terrors. First, rest in bed with requisite protection from atmospheric influences; second, a thorough cathartic of calomel was essential in bringing about a decisive derivative action of the secretions of the body. Five to 10 grains of calomel, with 30 to 60 grains of milk sugar was a formula that had never disappointed him in its beneficial effect. The action of nux vomica, when properly administered, never failed in its power to alleviate the symptoms and afford relief. Tincture of nux vomica should be given in large and frequent doses, well diluted in water.

Treatment of Chronic Dysentery.

This paper was read by Dr. John L. Jelks, Memphis. The disease was considered of microbic origin, although a specific organism had not received general acceptance as the sole causal factor. This was the basis of all treatment. No matter what the classification of the disease, the same general idea as to treatment must obtain, namely, the destruction of the micro-organism, drainage, cleanliness, rest and restoration of the tissues. An erroneous idea had prevailed that the disease was beyond reach of any possible topical medication, further than perhaps the use of the Wales metal bougie, which was not always a safe procedure. The sigmoidoscope and long rubber tube had a field in the treatment of this affection, and it was necessary to educate the profession as to the possibilities of this method. The patients should be placed in sanitary surroundings, free from unnecessary heat and moisture. The diet should be carefully selected. The stomach should receive careful attention. The portal engorgement should be relieved and the intestinal tract thoroughly cleansed. Hemorrhage from the bowel, when profuse, could be controlled by styptic enemata given through the double tube. In using the sigmoidoscope, the author recommended the knee-chest position. The bowel should be thoroughly cleansed through this instrument with antiseptic washes applied very hot. If there was much excoriation or ulceration, nitrate of silver might be applied to bleeding and eroded surfaces with a cotton probang, or in the form of a spray. Higher treatment may be administered through one or two tubes of soft rubber, which can be passed further into the colon and the antiseptic solution administered by enema through these. If necessary, boracic acid, iodoform, or aristol may be insufflated through the sigmoidoscope and the bowel thus thoroughly covered. In the chronic state he had found most benefit from iodoform and ichthyol made into suppositories and passed through the sigmoidoscope into the sigmoid. This was especially indicated in tubercular conditions, but had its use in any form of procto-sigmoiditis or colitis. All toxic drugs must be used with caution.

Affiliation with the American Medical Association.

A resolution was adopted, making the Mississippi Valley Medical Association a district branch of the American Medical Association. The constitution and by-laws of the former will be revised to conform to this change.

The New Officers.

The following officers were elected: President, Dr. Edwin Walker, Evansville, Ind.; vice-presidents, Drs. Hugh T. Patrick, Chicago, and Wm. Britt Burns, Memphis; secretary, Dr. Henry E. Tuley, and treasurer, Dr. Thomas Hunt Stucky, both of Louiville, Ky. Memphis, Tenn., was selected as the place for holding the next meeting, in 1903.

(The report will be continued next week with the proceedings of the surgical section.)

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Phlyctenular Keratitis.

According to Drs. Wood and Woodruff in *Med. Standard*, phlyctenular keratitis or eczema of the cornea is usually a disease of childhood, and often occurs in conjunction with phlyctenular conjunctivitis. In carrying out the treatment one or two drops of a 1 per cent. solution of atropin sulphate should be instilled into the eye sufficiently often to keep the pupil fully dilated. The photophobia is best relieved by the frequent application of cold or iced cloths to the lids. The conjunctival sac may be flushed with solutions of boric acid as follows:

℞. Acidi borici ..... gr. x | 65
Aq. destil ..... ℥i | 30

Hydrargyri chloridi corrosivum may be substituted for the boric acid solution, used in the strength of 1 to 10,000. This may be used several times a day if the eczema of the skin of the lids is not too extensive. In the latter case it is well to avoid watery solutions. Milk may then be used to wash the face and the lids. The fissures of the external canthus should be touched with a 1 per cent. solution of silver nitrate, and an ointment may be placed between the lids composed as follows:

℞. Hydrarg. oxidi flavi ..... gr. 2/5 | 025
Vaselini ..... ℥i | 30

M. Sig.: A small piece to be placed between the lids at night. The same should be applied two or three times a day to the eczema about the face.

Where the ulcers show a tendency to chronicity, massage with a stimulating ointment is useful to promote healing. The general health must be given particular attention; such as life in the open air, bathing, and a proper diet, limiting meat to once a day. Eggs and milk should make up the greater part of the diet. The following tonic and hematic may be employed internally:

℞. Liq. pot. arsenitis |
Liq. potassæ, āā ..... ℥iss | 6
Aq. dest. q. s. ad ..... ℥ii | 60

M. Sig.: One teaspoonful in water after each meal.

Second Stage of Acute Bronchitis.

The following is recommended by *Amer. Med.* for the treatment of acute bronchitis in the second stage:

℞. Ammonii chloridi ..... ℥ii | 8
Syr. picis liquidæ ..... ℥iii | 90
Heroin hydrochlor. ..... gr. ii | 12
Tinct. card. comp. ..... ℥i | 30
Aq. anise q. s. ad ..... ℥vi | 180

M. Sig.: One dessertspoonful four times a day.

Artificial Feeding of Infants.

Rotch recommends the following percentage modifications in preparing artificial feeding for infants, which can be made up by experienced laboratories:

	Percentage			
	Fat.	Sugar.	Proteid.	Mineral Matter.
First week	2.00	5.00	0.75	0.15
Second week	2.50	6.00	1.00	"
Third week	3.00	6.00	1.00	"
Fourth to sixth week	3.50	6.50	1.00	"
Sixth to eighth week	3.50	6.50	1.50	"
Two to five months	4.00	7.00	1.50	"
Four to eight months	4.00	7.00	2.00	"
Eight to nine months	4.00	7.00	2.50	"
Nine to ten months	4.00	7.00	3.00	"
Ten to ten and a half months	4.00	5.00	3.25	"
Ten and a half to eleven months	4.00	4.50	3.50	"

Eleven months, unmodified cow's milk.

He also gives a table by which the percentage modification may be made at home, as well as in the laboratory. Davis, in the "Sys. of Phys. Ther.," states that owing to the lack of cleanliness of nursemaids or mothers as good results can not

be obtained as are obtained from milk made up at the laboratory. When it is desired to carry out milk modification at home, the greatest efforts should be made to procure fresh milk of uniform character. As soon as it is obtained it should be put into a quart fruit jar on which the top should be fastened tightly. The full jar must be kept for the next six hours constantly tight, at a temperature of approximately 35 F. At the end of this time the cream will be at the top of the jar. If the upper fourth is now separated from the rest the needed cream and skimmed milk will be obtained. This separation, according to Davis, is best accomplished by siphoning off twenty-four ounces, or three-fourths, from the bottom of the jar. The upper fourth, amounting to eight ounces, is left in the jar.

By observing the foregoing method of separating the milk and cream, any intelligent person can prepare the infant's food by the following table advised by Rotch, which is revised to correspond approximately with the above percentages:

	Ounces				
	Cream.	Milk.	Lime Water.	Distilled Water.	Milk Sugar.
1st week	2	2	1	15	2
2d and 3d week	5	0	1	14	2½
4th to 8th week	7	1	1	11	2½
2 to 5 months	8	0	1	11	2¾
5 to 8 months	8	2½	1	8½	2½
8 to 9 months	8	5	1	6	2¼
9 to 10 months	8	7½	1	3½	2
10 to 10½ months	8	8	1	3	⅞
10½ to 11 months	8	12	0	0	0

These proportions give twenty ounces to each mixture. Sufficient should be prepared to last twenty-four hours and divided into the required number of feedings. These should be stoppered with antiseptic cotton and placed in a clean refrigerator.

For premature infants the following formulæ should be used:

Age (When Born).	Fat.	Sugar.	Proteid.	Number of Meals.	Amt. at Each Feeding.
28 weeks	1.00	3.00	0.50	24	1 dram.
29 to 32 weeks	1.50	4.00	0.50	24	2 drams.
32 to 36 weeks	1.50	5.00	0.75	24	3 drams.
36 weeks and over.	2.00	5.50	1.00	24	4 drams.

Holt recommends the following formulæ for infants two months old, taking twenty-four ounces a day.

℞. Top milk ..... ℥viii 240
Barley water ..... ℥xvi 480
Milk sugar ..... ℥vi 24

Or:

Cane sugar ..... ℥iv 16

The foregoing formula may remain the same until the sixth or seventh month, when the following mixture may be substituted:

℞. Top milk ..... ℥xix 570
Barley water ..... ℥xix 570
Milk sugar ..... ℥ix 36

Or:

Cane sugar ..... ℥v 20

White of Egg Lemonade.

R. W. Leftwich, according to *N. Y. Med. Jour.*, recommends very highly the following preparation as a nutritive drink for febrile disorders:

R. Two lemons.
The white of two eggs.
One pint of boiling water.
Loaf sugar to taste.

The lemons must be peeled twice, the yellow rind alone being used, while the white layer is rejected. Place the sliced lemon and the yellow peel in a quart jug with two lumps of sugar; pour on them the boiling water and stir occasionally. When cooled to about the ordinary temperature of tea, strain off the lemons. Now insert an egg whisk, and when the lemonade is in full agitation, add slowly the white of the egg and continue the whisking. While still hot strain through muslin and serve when cold. The white of the egg will be found to impart a blandness which makes the addition of sugar almost unnecessary. This absence of sweetness is greatly appreciated in the pyrexial cases, and has its obvious value for diabetics.

For non-febrile cases with clean tongues, more than two eggs may be used to the pint if desired. This drink is contraindicated only in the cases of true Bright's disease. It is very useful in the febrile diseases of childhood. It also possesses antiscorbutic properties which replace those lost from milk by boiling and sterilization. It is recommended as a part of the diet in typhoid fever, forming a relief from the monotony of milk, and does not have the constipating and flatus producing effects that lie in beaten-up eggs that include the yolk. The author states that the patient who takes plenty of this lemonade in addition to four pints of milk per day will emerge from the pyrexial period of typhoid fever in a much stronger condition than without its use.

Sciatica.

Brieger, according to an abstract in *Amer. Med.*, has employed successfully a method of treatment consisting of a proper combination of heat and cold. The recovery, according to the author, is more rapid if the hydropathic procedures are accompanied by massage and movements. During the application of a hot douche, the leg is massaged, after which it is exposed to a cold douche. He cites several cases which had been treated only by massage and failed to recover. He also gives hot baths at a temperature of 38 C., and during the bath, passive and active movements are practiced. If the latter be performed when in the hot water considerable of the excruciating pain that accompanies motion in sciatica is avoided. By this method of baths, douches and movements, patients of one year's standing recovered in forty-six days, and in one case of two years' duration the sciatica disappeared in two weeks.

Myocarditis.

Lemoine of Lille, according to R. H. Turner, in *Ther. Gaz.*, states that the best drug to be used in myocarditis is strophanthus, and he recommends giving two pills, each containing half a milligram of the extract of strophanthus when there are signs of cardiac insufficiency. In serious cases, when a result must be obtained quickly, injections of ether or of camphorated ether should be given:

℞. Camphoræ ..... gr. v
Spts. etheris
Alcoholis, āā ..... ℥i 4 | 30

M. Sig.: Fifteen to forty-five drops in twenty-four hours.

Spartein sulphate may also be used hypodermically as follows:

℞. Spartein sulph. ..... gr. v
Aquæ ..... ℥iiss 10 | 30

M. Sig.: Fifteen to forty-five drops in twenty-four hours.

Strychnin sulphate may be employed when the heart muscle fails to respond to spartein injections:

℞. Strychninæ sulph. ..... gr. ¼
Aquæ ..... ℥iiss 10 | 015

M. Sig.: Five to fifteen drops once or twice in twenty-four hours.

Medicolegal.

Duty of Injured Person in Employment of Physician.—The Supreme Court of Washington says that throughout the trial of the personal injury case of Baldwin vs. Lincoln County attempt was made to show that the person to whom the party suing went for treatment was not a licensed practicing physician or surgeon, and that the party knew that fact, and that the medical treatment received by him was unskilful, and that the injury resulting to him was therefore greater than it otherwise would have been. The county conceded that on receiving his injuries he was bound to obtain timely medical assistance, in order to reduce the damages suffered as much as possible, and that it was his duty to see that his injuries were attended to with dispatch, and to seek the nearest competent physician. The injured party having used ordinary care in this regard, the court goes on to say, could not be held to assume the liability of improper treatment. The converse of the rule must maintain, also, that if the injured party was negligent in the employment of a competent physician, or employed some person

whom he knew to be incompetent, when competent physicians were accessible, and improper treatment was resorted to, and the injuries thereby greatly increased, these facts might be shown in mitigation of damages. These facts were facts to be determined by the jury from the evidence. The trial judge on this question very properly, the court thinks, instructed the jury that it is the duty of the person who has sustained personal injuries for which another is liable to secure timely medical or surgical aid, in order to reduce the liability of the party causing the injury. In selecting a physician he is only charged to use ordinary care and judgment. If the party suing used ordinary care and judgment in selecting a physician, considering the circumstances of the case, the liability of the county would not be changed, if the county was found liable; nor would the amount of recovery be reduced, even though it should be found that the physician did not perform his work skilfully.

Releases in Injury Cases—On Statement of Physician.—The United States Circuit Court of Appeals, Eighth Circuit, says, in Chicago & Northwestern Railway Company vs. Wilcox, a personal injury case brought by the latter party, that, in the absence of fraud or mistake, an agreement of settlement and release of an unliquidated or disputed claim as conclusively debars the parties from reviving and litigating it as a final judgment. Such agreements of compromise are uniformly favored and upheld by the courts. A mere preponderance of testimony is insufficient to establish such fraud or mistake as will warrant the avoidance of a written agreement of settlement and release. The proof must be clear, unequivocal and convincing to have this effect. A mistake of a past or present fact may warrant a rescission of a contract of settlement and release. But a mistake in opinion or belief relative to the future duration or effect of a personal injury, or a mistake in prophecy or opinion as to an uncertain future event, is not a mistake of fact, and is no ground for the avoidance of a release or of a contract of settlement. The complainant in this case, who was 65 years of age when injured, compromised and released a claim for a broken hip. She knew when she settled that her hip had been broken; that it was a bad break; that the neck of the femur was fractured. She was induced by the statement of her own physician, who was also the company's physician, to believe, and did believe, that she would be well within a year, and she settled on that basis. She was mistaken, and her injury and disability turned out to be permanent. The court holds that her mistake was not a mistake of fact, but a mistake in opinion or belief as to a future event, and that it furnished no ground for an avoidance of her release. Again, it says that it is common knowledge, with which all must be charged, that the future effects of a broken bone are uncertain, contingent on many conditions, and unknowable. The physical and mental condition of the sufferer, the state of his vital organs, his age, his habits of life, the character and temperament of his nervous system, and many other conditions that it is impossible to enumerate or even to conceive, inevitably affect the duration and the character of his disability and the amount of his suffering. Ignorance of the duration of the disabilities and of the ultimate effects of the injuries always exist where compromises are made before a complete recovery is effected. The cases are doubtless rare where the duration of the disability corresponds with the prophecy of the physician or with the belief of the parties when settlements are made. But compromises and releases are not voidable on this account, for the reason that the parties to them know the uncertainty of these future events, and by the very fact of settlement before they develop agree to take the chances of their effects. Their mistakes relative to the future duration of the disabilities and the future effects of the personal injuries that form the subjects of their contracts are mistakes of belief, and not of fact, and form no basis for the avoidance of their contracts. Such was the mistake under which the complainant in this case labored. It was a mistake in the opinion of the doctor, and in the belief of his patient with reference to unknowable future events, and presented no ground for a rescission of her release.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

Philadelphia Medical Journal, October 11.

1 *Gastroptosis: A Method of Suspending the Stomach in a Hammock Made of the Great Omentum. R. C. Coffey.
2 Littoral California. William A. Edwards.
3 Is Disease Transmitted to Man Through Meat and Milk? D. M. McMasters.
4 *Severe Burn of the Eye and Face by Nitrite of Amyl, with Loss of the Eye. Edward A. Shumway.
5 Extensive Destruction of the Nasal Septum, with Involvement of the Accessory Sinuses, from Sepsis. Charles I. Buvinger.

New York Medical Journal, October 11.

6 The Evolution of Urology, an Opening Address Delivered at the Annual Meeting of the American Urological Association. (To be concluded.) Ramon Guiteras.
7 *The Indications and Limits for Operations by the Vaginal Route. C. C. Theinhaus.
8 *The Silent Forms of Epilepsy. William P. Spratling.
9 *The Constitutional State Versus Catarrhal Deafness. Sargent F. Snow.
10 *Septicemia and the Curette. H. Plympton.
11 A Contribution to the Treatment of Spasmodic Wry-Neck. George R. Elliott.

Medical News (N. Y.), October 11.

12 *The Teaching of Surgery; with Especial Reference to Didactic Method. Joseph D. Bryant.
13 Contribution to the Diagnosis of Renal Calculus. Frederic Bierhoff.
14 *The Criminal Equivalent of Insanity. Wm. B. Noyes.
15 Apocynum Cannabinum in Some Dropsical Conditions. M. L. Hildreth.
16 The Etiology of Shock. H. H. Stoner.
17 *How Much Do We Positively Know About Tuberculosis? A Plea for the Tuberculous. F. C. McGahey.
18 An Instance of Accidental Vaccination. Geo. W. Kosmak.

American Medicine (Philadelphia), October 11.

19 *The Pathology of Chronic Specific Dysentery of Tropical Origin. Charles F. Craig.
20 Types of Infection Produced in Man by Intermediate Members of the Typhoid-colon Group of Bacilli. (Continued.) Warren Coleman.
21 *Immunity in the Light of Recent Investigations. D. H. Bergey.
22 *Brewers' Yeast in Therapeutics. Julius Ullman.
23 An Additional Case of Typhoid Spondylitis. Albert H. Freiberg.
24 Idiopathic Vaginismus and Sterility. E. Castelli.
25 Professor Nicoladoni's Clinic, Gratz. Nicholas Senn.

Boston Medical and Surgical Journal, October 9.

26 *Ultimate Results of Operations for Appendicitis. Homer Gage.
27 Chronic Laryngeal Obstruction Due to Enlargement of the False Cords; Tracheotomy; Later Partial Excision of False Cords. L. R. G. Crandon.
28 *The Modern Operation for Radical Cure of Umbilical Hernia. W. H. Conant.
29 Sensory Hallucination and Its Analogues. (Concluded.) Robert MacDougall.
30 Massage in Fracture Treatment. Edward A. Tracy.

St. Louis Medical Review, October 11.

31 Phantom Tumors. M. E. Fitch.
32 Tubercular Peritonitis. T. E. Potter.

Cincinnati Lancet-Clinic, October 11.

33 Surgery of Prostate, Pancreas and Diaphragm. B. Merrill Ricketts.
34 *Preventive Dentistry. C. M. Wright.
35 Tuberculosis—Truths Calmly Considered. H. H. Spiers.
36 *Septicemia and the Curette. H. Plympton.

Medical Record (N. Y.), October 11.

37 *The Prominent Eye—Its Meaning and Clinical Associations. A. Haig.
38 Resection of Nearly Eight Feet of Gangrenous Intestine—Recovery. George R. Harris.
39 *Making and Closing the Median Celiotomy Wound. Augustin H. Goelet.
40 Sensation and Volition. Herman Gasser.
41 *The Glycerophosphates; Particularly the Glycerophosphate of Sodium. P. W. Street.
42 *Malarial Infection a Potent Factor in Asthenopic Conditions. J. Lawton Hiers.
43 *The Use of Argyrol in the Treatment of Acute Gonorrhea. G. K. Swinburne.
44 A Case of Raynaud's Disease Occurring in a Patient Suffering from Graves' Disease. S. W. Thompson.

Northwestern Lancet (Minneapolis), October 1.

45 The Prostate from the General Practitioner's Standpoint. John B. Murphy.
46 The Marburg Experiments. C. H. Hunter.
47 Empyema, with Report of Cases. Emery H. Bayley.

Louisville Monthly Journal of Medicine and Surgery, October.

48 Hemorrhage in Typhoid Fever. R. Alexander Bate.
49 Remarks on Appendicitis. A. H. Barkley.
50 A Consideration of Acute Inflammatory Rheumatism. Hugh L. McLean.
51 Infantile Disturbances. Sidney J. Meyers.
52 Importance of Diagnosis. F. L. Bott.
53 How to Assist Young Girls to Womanhood. Edward C. Hill.

54 Address of Welcome to the Ohio Valley Medical Association. Jacob Glahn.

Journal of Cutaneous and Genito-Urinary Diseases (N. Y.), October.

55 Presidential Address: The American Dermatological Association, and Its Work During Its First Quarter of a Century. George T. Jackson.
56 Two Cases of Malignant Vascular Tumor (Perithelioma) of the Skin. Paul G. Woolley and E. Hamilton White.
57 Fatty Degeneration of the Bladder as a Factor in the Pathology of Genito-Urinary Disease in Middle and Advanced Life. G. Frank Lydston.
58 Dermatological Cases (Zoster Glossitis). Max Reichman.

American Gynecology (N. Y.), September.

59 *Hypertrophies of the Labia Minora and Their Significance. Robert L. Dickinson.
60 A Study of Uterine Fibromyomata, with Especial Reference to Their Degenerations and Complications as Furnishing Reasons for Early Operations. Carlton C. Frederick.
61 *Address, American Gynecologic Society. Seth C. Gordon.
62 The Surgical Treatment of Retrodisplacements of the Uterus. William D. Haggard.
63 *Pelvic Suppuration. A. J. Puls.

Toledo Medical and Surgical Reporter, October.

64 What Should Be Done During Labor? William Cherry.
65 The Sprained Ankle. J. T. Woods.
66 A Case of Tetanus with Recovery. S. Ellis Demuth.
67 Gonorrheal Rheumatism. J. Douglas Westervelt.

Buffalo Medical Journal, October.

68 Defects in, and Suggestions for the Improvement of the Reports of Examining Surgeons. J. F. Raub.
69 Blood in Its Relation to Surgical Diagnosis. A. E. Woehnert.
70 *The Treatment of Insomnia of Pulmonary Tuberculosis. S. C. Reisman.
71 Menstruation—Normal and Abnormal. C. A. Button.
72 Intratracheal Medication. Edgar A. Forsyth.

International Journal of Surgery (N. Y.), October.

73 Diagnosis of Prolapse of the Kidney and Method of Fixation. Augustin H. Goelet.
74 Nose and Throat Work for the General Practitioner. (Continued.) George L. Richards.
75 Summary of Thirteen Operations upon the Gall-Bladder and Bile Ducts. Eugene A. Smith.
76 The Surgical Assistant. (Continued.) Walter M. Brickner.
77 The Technics of Amputations. R. H. Cowan.
78 Report of a Case of Carcinoma Cured by Arsenious Acid, After Failure of Other Methods of Treatment. Leonard C. Hull.

Illinois Medical Journal (Springfield), October.

79 *Report of Ninety Cases of Typhoid Fever in Infants and Children. Isaac A. Abt.
80 *Control of Vaccines, Antitoxines and Biological Products. Adolph Gehrmann.
81 Miliary Tuberculosis. Frank X. Walls.
82 What Shall We Teach the People in Regard to Tuberculosis? Geo. W. Webster.
83 The Limitations of Surgery in Gynecology. O. B. Will.

St. Louis Courier of Medicine, October.

84 The Cecum: In Relation to the Psoas Muscle in 310 Adult Male and 125 Adult Female Autopsies. Byron Robinson.
85 Two Contrasted Cases of Typhoid Fever. George Homan.
86 Infective Cellulitis. Charles G. Geiger.
87 The Vessel Phenomena in Aortic Regurgitation and Aneurism. Elsworth Smith, Jr.
88 The Protective Proteids in Vaccination. A. S. Bleyer.

Brooklyn Medical Journal, October.

89 *Vioform: Researches Concerning Its Properties, with Especial Reference to Its Possible Use as a Substitute for Iodoform in the Treatment of Tubercular Joints. James E. Blake.
90 Modern Views of Diabetes Mellitus. Joshua M. Van Cott.
91 Eclampsia: Etiology, Symptomatology, Diagnosis, Complications, Prognosis and Therapeutics. A. M. Judd.
92 *The Present Status of the Pathology and Etiology of Eclampsia. C. L. Fincke.
93 *Temporary Modified Intubation of the Larynx, as an Aid and Safeguard in Operations in the Mouth and Pharynx. Rubert S. Royce.
94 *A Phase of Surgical Tuberculosis. A. T. Bristow.
95 *The Infectiousness of Tuberculosis. Archibald Murray.

Oklahoma Medical News-Journal (Oklahoma City), August.

96 Leukemia. Ed. E. Rice.
97 Cholelithiasis, Treatment of. J. S. Hibbard.

September.

98 Surgery of the Gall-Bladder and Ducts. A. L. Blesh.

Medicine (Detroit, Mich.), October.

99 The Diagnosis of Diabetes Mellitus and the Urinary Findings in This Disease. D. L. Edsall.
100 *Some Aspects of the Present Smallpox Epidemic. John C. Hancock.
101 *Tuberculosis of the Testicle and Epididymis. Irvin Abell.
102 Methods of Prolonging Life—A Brief Historical Sketch. Lawrence Irwell.

Woman's Medical Journal (Toledo, Ohio), September.

103 The Better Preparation of Our Women for Maternity. Josephine Wetmore.
104 Sterility in the Female and Its Curability. S. L. Kistler.
105 Ills and Treatment Peculiar to Children. Mary Newell.
106 Etiology and Pathology of Pott's Disease of the Spine. Lucy M. T. Wanzer.

Pennsylvania Medical Journal (Pittsburg), September.

107 *The Surgical Aspect of Pain Occurring in the Epigastric Region. O. C. Gaub.
108 *Some Observations on Neurasthenia. Theodore Diller.
109 Gastric Neurasthenia. G. E. Humphrey.
110 A Rare Case of Delayed Union of the Tibia and Fibula. Walter H. Parcels.
111 Atonic Dilatation of the Stomach with Report of a Case. T. Wray Grayson.
112 A Case of Infected Extrauterine Pregnancy. Mark A. Rodgers.
113 The Use of Anesthetics by the General Practitioner, with Special Reference to Chloroform. J. Pierce Roberts.

Medical Age (Detroit, Mich.), October 10.

114 Progress of Diseases of the Nose. B. A. Waddington.
115 Is the Medical Fraternity Guilty of Professional Neglect of Its Vaccinated Patients? L. T. Schurrer.
116 The Physiology of Feeling. Herman Gasser.

Journal of Nervous and Mental Diseases (N. Y.), October.

117 *A Study of Landry's Paralysis; With a Report of Three Non-Fatal Cases. Theodore Diller.
118 *Note on Cell Changes in a Case of Complete Compression of the Cord. John J. Thomas.
119 A Case of Severe Hysterical Contracture of the Leg, and Its Treatment. Frank R. Fry.
120 *Pseudo-epilepsies, and the Relief of Some Forms by Thyroid. William Browning.
121 A Case of Tumor in the Cerebellum; Autopsy. O. T. Osborne.

The Post-Graduate (N. Y.), October.

122 Obstetric Cases of Interest. George L. Brodhead.
123 Cyst of the Urachus, with Report of a Case. Charles C. Page.
124 Examination of the Secretions of the Mouth and of the Gastric and Intestinal Contents. Hermann Lenhartz.
125 Tuberculosis of the Knee-Joint, Its Diagnosis and Treatment. Charles Ogilvy.
126 Acute General Gonorrheal Peritonitis. C. R. L. Putnam.

Medical Review of Reviews (N. Y.), September 25.

127 Subcutaneous Injection of Paraffin in the Correction of Facial Deformities. Harmon Smith.

Southern Practitioner (Nashville, Tenn.), October.

128 *More About the Rectal Valves—A Brief Consideration of Their Physiology and Pathology. A. B. Cooke.
129 *The Physiology of Fever. Perry Bromberg.
130 Hysterectomy for Cancer of the Uterus. T. J. Biggs.

The Laryngoscope (St. Louis), September.

131 *Chronic Suppurative Otitis Media—When Should Radical Surgery Be Employed in Its Treatment, and of What Should This Consist? George L. Richards.
132 *Constitutional Manifestations Due to Infectious Processes of the Adenoid Structure in Children. D. Braden Kyle.
133 The Best Means of Removing Nasal Obstructions, with Report of 264 Cases. J. W. Murphy.
134 A Case of Epithelioma of the Larynx, Thyrotomy, Recurrence and Death in Four Months. Charles H. Knight.
135 A Novel Feature in the Treatment of Tubercular Laryngitis, with Recital of a Presumably Cured Case. F. L. Stillman.
136 A New Folding Tongue Depressor. Henry W. Wandless.
137 On the Use of Hot Air in Eustachian Catheterization. J. F. Oaks.

Hot Springs Medical Journal, September.

138 Excision of the Knee for Chronic Rheumatism. Theodore A. McGraw.
139 Vesicular Mole, or Fatty and Cystic Degeneration of the Product of Conception. W. P. Dunbar.

Texas Medical Journal (Austin), October.

140 Serum Therapy. H. N. Graves.
141 Tinea Sycosis; with Report of Case. Alexander A. Brown.

Carolina Medical Journal (Charlotte, N. C.), September.

142 Prostatitis. A. J. Crowell.
143 Inebriety—The Necessity of Legal Adjudication and Restraint of Inebriates. Charles Duffy.
144 Agurin, a New Diuretic. F. Carbonell y Soles.

Vermont Medical Monthly (Burlington), September 25.

145 The Etiology of Typhoid Fever. James M. Hamilton.
146 Pathology of Typhoid Fever. O. W. Sherwin.
147 The Clinical History of Typhoid Fever. John W. Avery.
148 Diagnosis of Typhoid Fever. J. D. Brewster.
149 The Complications and Sequels of Typhoid Fever. D. L. Burnett.
150 Treatment of Typhoid Fever. J. N. Jenne.
151 *Puerperal Septicemia and the Abuse of the Curette. H. Plympton.
152 The Sending of Medicolegal Material Through the Mail with Presentation of a New Mailing Tube. C. S. Scofield.

Medical Standard (Chicago), October.

153 A Gynecologic Clinic. (Prolapsus Uteri, Retroflexion and Cystocele.) Thomas H. Watkins.
154 Practical Dietetics. (Continued.) A. L. Benedict.
155 The Commoner Diseases of the Eye: How to Detect and How to Treat Them. (Continued.) Casey A. Wood and Thomas A. Woodruff.
156 Landmarks in the Tractus Genitalis. Byron Robinson.
157 The Evolution of Death. Herman Gasser.
158 Pain and Its Indications. E. C. Hill.

Medical Bulletin of Washington University (St. Louis). September.

159 Operation for the Deflection of the Nasal Septum. Charles A. Todd.
160 Hypertrophic Pyloric Stenosis in Infants—With a Report of Two Cases, Ending in Recovery. John Zahorsky.
161 Acute Osteomyelitic Arthritis of Infants. Phil. Hoffmann.

1. **Gastroptosis.**—The operation recommended by Coffey consists in making a hammock or loop of the great omentum and thus suspending the stomach as indicated in the title of his article. The paper is quite fully illustrated, and he remarks that the principal point to be known is that it does not do harm to suture the omentum to the abdominal wall at any point the operator may see fit. It is a good precaution, however, to avoid omental blood vessels. His conclusions are as follows: Gastroptosis is far more frequent than has been suspected. Dilatation is probably in most cases due to gastroptosis, and gastroptosis with dilatation, having once begun, produces a weight which its normal direct support will not sustain, so the position increases the dilatation, and the dilatation in turn increases the weight, and the patient inevitably grows worse. The operation suggested is that of suspending the stomach by giving it additional support through the posterior attachment of the mesocolon and the anterior attachment of the great omentum to the abdominal wall. Both of these are indirect and are capable of holding more than a direct attachment, like the one from above. Dilatation in the majority of cases will be relieved by this operation. The transverse colon being in the folds of the great omentum can not be displaced downward, therefore this operation will greatly benefit, if not entirely relieve enteroptosis by supporting the weight which would otherwise be pressing the small intestines into the pelvis. In case of splanchnoptosis with a very much relaxed abdominal wall or separation of the recti muscles, the operation devised by Webster should be done in closing the abdominal wound.

4. **Nitrite of Amyl.**—Shumway's case is peculiar in that it shows an irritating effect of nitrite of amyl, which is not noted in text-books. Careful examination seemed to confirm the fact that it was this drug that produced the effect. It is made by the action of nitrous or nitric acid on amylic alcohol, or fusel oil. It rapidly decomposes under light, producing valerianic acid; valerianate of amyl and fusel oil are formed at the same time. This was the cause of the accident, and it was probably a fact that the substance had decomposed and that it consisted largely of a mixture of nitrous or nitric acid, to which the burn was due. He offers in conclusion the following suggestions: "1. Nitrite of amyl should be supplied to patients, for inhalation, only in the form of the glass pearls. 2. When in quantity, it should be kept in small, well-sealed, glass-stoppered bottles, in a cool, dark place. 3. A specimen which has been used a number of times should be tested very carefully and, if on examination it is found to have a decidedly acid reaction, it should be at once discarded."

7. **Vaginal Operations.**—Thienhaus holds that the vaginal operation is to be employed in quite a number of cases, especially in inflammatory processes about the adnexa, in the uterine prolapses with or without cystocele, in retroversion and retroflexion, in extra-uterine pregnancy, etc. He says in conclusion that two requirements are necessary for surgery by the vaginal route: "1. Greatest care in diagnosis and judgment in the selection of cases. 2. Absolute familiarity, as well theoretically as practically, with all abdominal operative procedures on the female sexual and adjacent organs, because the necessity may arise (though very seldom in the hands of experts) of resorting to the combined vaginal and abdominal methods of operation. It must not be forgotten that almost all surgeons who now ardently advocate the vaginal route have performed in former years almost all of their work by abdominal section, and when the results gained by the vaginal operations taught them the unquestionable great advantages of this route concerning the immediate and remote results of their operative procedures and concerning the safety of their patients, they came *gradatim* to the conclusions of Fritsch and Thorn, that it must be our principle what we *can* operate on by the vaginal route *must* be operated on by this route."

8. **Epilepsy.**—The form here considered under the name of "silent" forms of epilepsy are mental seizures which occur sometimes in individuals, and are due to some disturbance in the purely mental functionating process of the cortex. Such cases often go unrecognized for years, are not infrequent, and are of great importance both from a medical and medicolegal standpoint. His objects in calling attention to this form are: "1. To help stimulate the spirit of investigation in medical jurisprudence that has for its object the placing of responsibility for crime where it rightly belongs; 2, the proper medical care of persons who have this very obscure and often unrecognized affection, while the malady is yet in its most benign stage."

9. **Catarrhal Deafness.**—The importance of treating the constitutional condition in cases of catarrhal deafness is insisted on by Snow, who says that it is virtually impossible to handle a case of chronic catarrhal deafness where there is low vitality, a sensitive skin, or frequent functional derangements, whereas without these obstacles a correction of morbid nasal conditions makes the disease, as a rule, non-aggressive and capable of much improvement.

10.—See also ¶36 and ¶151, below.

12. **Teaching of Surgery.**—According to Bryant's views "1, a thorough didactic foundation is absolutely necessary for the proper attainment of surgical knowledge; 2, that clinical teaching fits the student for the intelligent use of didactic facts; 3, that didactic teaching with limited clinical opportunity begets ponderous theorizing with a minimum of fertile practicability; 4, that clinical teaching with limited didactic opportunity begets much of unreasoning imitation with limited logical deduction."

14. **Moral Insanity.**—Noyes describes cases which are of medicolegal interest and discusses the criminal phase of insanity and its medicolegal standing.

17. **Tuberculosis.**—McGahey combats the popular notion as to the extreme contagiousness of tuberculosis, giving as examples cases among the Indians in the Government Indian schools, who are specially liable, and yet no cases have originated from contagion from them. He remarks that he is not combating antiseptic measures for its prevention, but he thinks too much is made of the bacillus as a directly contagious germ.

19. **Chronic Specific Dysentery.**—The symptoms and pathology of this disease have been studied in detail by Craig, who, in conclusion, remarks in regard to the bacteriology, that in the chronic form described all classes of bacteria are found and to isolate and determine the one real cause is difficult. While he has not been able to obtain cultures of Shiga's bacillus in most cases coming to autopsy, he has used the pure culture of this bacteria in testing the action of blood-serum of these cases, and in all obtained a marked agglutination. This reaction was not present in cases of amebic dysentery so far as he was able to discover. The bacteria are most numerous in the gangrenous stage, less so in the follicular, the micrococci in the severer stages. He remarks in conclusion that the term tropical dysentery indicating the amebic type is unwarranted as indicating that the amebic type is the only one occurring in the tropics. All these cases described originated in the tropics and are just as tropical as pure amebic dysentery.

21. **Immunity.**—Bergey describes the theories of immunity, more especially the later ones of Ehrlich, giving his terms, receptors and complement, the former indicating what was once known as the immune body, which is present only in the serum of immune animals, and is resistant to heat, the latter present in normal blood and destroyed by a low degree of heat. He remarks in regard to the lack of influence of specific bactericidal serum that it may be explained by the fact that the human complement does not compare in its configuration with the haptophore of the immune body derived from the lower animals, and consequently it can not unite with it. He offers three suggestions that have been made to overcome the inefficacy of the bactericidal immune serums: "1. The simultaneous injection of complement derived from the same species as that furnishing the immune serum. Experience has shown that there is a tendency for the complement to be utilized in the formation of anticomplement so that it becomes ineffective for this reason. 2. The employment of a mixture of immune serums derived from a number of species of animals so that in the multiplicity of immune serums the human complement may find sufficient receptors with haptophores of like configuration

to bring about the destruction of the invading microörganisms. 3. The immunization of a species of animals so closely related to man as to yield receptors with haptophores that compare with the complement in human blood. The latter suggestion appears to offer the most ready solution of the problem, but the question has not yet been decided experimentally."

22. **Brewers' Yeast.**—Ullman reviews the conditions in which brewers' years has been used in therapeutics, reporting cases, and remarks that we must conclude that because of its ferments, nuclein and nucleinic acid and phagocytic action, it is a remedy of value in therapeutics. Its use is not confined to any one disease, but it is valuable wherever an increased resistance of the organism is required. It has proved itself of value in furunculosis, carbuncles, diabetes, tuberculosis, bronchitis, bronchopneumonia, enteroptosis, habitual constipation, cancer and other affections. Used in cases of advanced tuberculosis an improvement in symptoms indicative of secondary pyogenic infection was noted.

26. **Appendicitis.**—Gage has endeavored to learn the subsequent history of three hundred cases of appendicitis operated on prior to Oct. 1, 1901. His belief is that there is only one kind of appendicitis and that is the kind that demands operation, and he prefers to operate promptly. He mentions his method and remarks that 35, or 15 per cent., of the 240 cases operated on during an acute attack were fatal. The percentage shows a reduction in the later series of cases. Of the 228 cases whose subsequent history he has been able to obtain, 42 have a complaint of some nature; 13 speak of trouble in the region of the scar, soreness caused by exercise, etc. One of these was so disabled that a second operation was performed, and all that was found was an adhesion of the omentum on the under side of the upper part of the scar, covering an area of not more than one-half an inch square. This was released, nothing else being indicated, but the result was perfect and complete relief. In some cases there have been persistent fecal fistulas which he can not explain, and in one case of general purulent peritonitis in which he removed a gangrenous appendix and which made an unexpected recovery, he was called on later to operate for acute intestinal obstruction. He could not ascertain the exact point of constriction, so he separated all the adhesions he could find as well as he was able and the patient promptly recovered. Nineteen, or a little less than 9 per cent., report the existence of hernia. In 9 cases there were attacks simulating appendicitis occurring after the operation, and these he briefly details.

28. **Umbilical Hernia.**—Conant summarizes his article in substance as follows: 1. Umbilical hernia in children as a general rule recovers without a truss. 2. Strangulated umbilical hernia is to be operated on like any other hernia. 3. Radical umbilical hernia should be operated on if the patient permits, otherwise a well-fitting truss should be constantly worn day and night. 4. Irreducible hernia should be operated on unless there is some marked contraindication like heart or kidney disease. Age and size of the tumor need be no bar to operation. 5. The preferable operation should combine rapidity with the diminution of shock, both by lessening hemorrhage and also the length of time under anesthesia. 6. The use of cocain is advisable where ether is contraindicated. He describes the operation in detail.

34. **Preventive Dentistry.**—Wright thinks that dentists should give more attention to the preventive part of their practice by prophylactic measures against teeth liable to disease. Caries of dentine and Rigg's disease are dependent on two classes of factors, predisposing and specific, and by prophylactic treatment by frequent polishing and massage with orange wood and pumice, adhesions will be kept away, the effects of fermentation will be obliterated, pulps and nourishing membranes will be stimulated to healthy and normal function and caries and septic gingivitis will be positively prevented.

36. **Septicemia and the Curette.**—Plympton objects to the too great use of the curette and suggests the substitution of gentle flushing of the uterine cavity with alkaline solution (110 degrees) from a moderate height, the reservoir not over two feet above the level of the hips, having first removed all loose fragments. He does not wish to be understood as condemning the use of the curette, but only the abuse of it.

37. **The Prominent Eye.**—Haig emphasizes the importance of the prominent eye as a symptom of increased blood pressure, which is the underlying cause of Graves' disease and other conditions in which this symptom is present. It not only tells us whether there is high blood pressure but often also how long it has been there and whether the heart has hypertrophied under it or has failed early or only later. We must notice not only the eye, but the condition of puffiness or wrinkling of the skin around it. He claims he can even approximately gauge the thickness of the left ventricle by the greater or lesser prominence of the eye.

39. **The Celiotomy Wound.**—Goelet advises making an incision first through the skin and down to the fascia, then retracting the parts and dividing the fascia over the rectus muscle about a third of an inch from the median line and separating the muscle with the fingers in the direction of its fibers down to the peritoneal fat, which, with the peritoneum, is opened in the usual manner. In this way he makes an incision through the muscle and lower parts a little to one side of the incision of the skin and secures a firmer line of union. In closing the wound he uses a continuous suture of No. 1 chromicized catgut throughout, tied only at the start and finish. The first layer includes the peritoneum, subperitoneal fascia and the lower border of the muscle on each side beginning at the upper angle of the wound and continuing it to the lower end. By including the lower border of the muscle with the peritoneum, the leaving of dead space between the peritoneum and the muscle is avoided. Then the same suture is continued from below upward, the fascia is united, and this layer of suture is made to include the upper part of the muscle with the fascia, thus avoiding a dead space here also. Unless the fat is unusually thick no suture will be required above the fascia, but when necessary it can be drawn together by a continuous suture, applied from above downward, the insertions from side to side being made in the direction of the incision and not transversely to it. The skin can be approximated either by a subcuticular suture or by application of aseptic adhesive straps, one quarter of an inch wide, with space between them, to permit drainage into the dressing applied over them, when a thick pad of absorbent cotton covered with gauze is applied, and held down by broad adhesive straps, across the abdomen from side to side, securing firm pressure on the wound. All bleeding vessels should be stopped before integument is approximated and ligated with No. 1 plain catgut to avoid bleeding that might prevent closure of the wound. This is necessary when adhesive straps have been used. Simple oozing is usually stopped by sponging with hot salt solution.

41. **Glycerophosphates.**—The actions of glycerophosphoric acid on various bases are noticed by Street, who especially remarks in regard to the glycerophosphates of sodium which have been most used in this country. They are very hygroscopic, and only sold in 75 per cent. solutions of water. He says that: "The glycerophosphates are indicated, and most useful in all cases of nervous impairment due to overwork, or excesses of any kind. Also in asthenic nervous maladies, mental depression, and whenever it is desired to increase the nutrition of the nerve-cells, and stimulate their activity. In neurasthenic conditions characterized by vertigo, occipital headache, unsteadiness of gait, or inability for physical or mental effort, great improvement attends their use. In the premature advance of age, and in senility, attended by general debility, the benefits from their protracted use are striking. They greatly relieve hysteria, and also the many morbid feelings of nervous patients. Their value is considerable in chronic neuralgia, in sciatica (by hypodermic injection along the nerve), and in convalescence from la grippe, and acute infectious diseases. In diabetes, Magnin of Paris asserts that he has personally seen, repeatedly, the sugar markedly diminished by them. And they are said to be useful in Addison's disease." They are contraindicated in albuminuria, in diseases with organic oxidation in excess and in the acute excitable nervous states, and their incompatibilities are lead salts, phosphates or carbonates. For

hypodermic use they can be employed according to the following formula: Phosphate of sodium, 12 gr.; sodium chlorid, ½ gr.; distilled water, 1 dram, 15 to 30 minims injected once daily antiseptically. The solution should be fresh or kept sterile. The best site for injection is in the back, as it causes some pain for a few minutes and soreness and redness for some days. On this account he objects to the hypodermic injection as a rule, and advises the remedy to be taken internally. He gives as an effectual formula: Glycerophosphate of sodium 7½ gr., 1 grain of glycerophosphate of quinin, 2 grains of glycerophosphate of iron and 1 dram glycerin, with sufficient citric acid to complete solubility. One dose, to be taken in water before each meal. To get the best results it is usually necessary to administer the glycerophosphates from three to six months, sometimes longer, though occasional interruptions of several weeks in the course of very prolonged administration are beneficial. Strychnin and proper hygiene are useful auxiliaries. Excesses and the use of stimulants, even tea, coffee or tobacco, are to be avoided.

42. **Malarial Asthenopia.**—Hiers has treated twenty cases of hypermetrophic asthenopia associated with malaria during the last four years, besides eleven without any other assignable cause. From the evidence he deduces the following conclusions: "1. That two distinct forms of malarial asthenopia exist—acute and chronic. The former is seen most frequently by the family physician, and is characterized by the eye strain, pain, and weakness of vision which accompany febrile reactions of an intermittent or remittent type. The latter more frequently falls under the care of an oculist, and may be associated with muscular or accommodative asthenopia, or both. 2. That asthenopia *per se* does not exist, but must possess some qualifying cause. 3. That the interocular and neurotic manifestations should be classified individually and not generalized. 4. That microscopic investigation can and does determine the prevalence of plasmodia in certain of the aforesaid conditions. 5. That a febrile reaction does not of necessity accompany the history of the case. 6. That under judicious anti-malarial treatment, provided the presence of hematozoa has been demonstrated, the causative factor can be readily eradicated and a permanent cure effected."

43. **Argyrol.**—According to Swinburne this drug has "decided gonococcidal powers; it has a decided effect in reducing and allaying inflammation of the disease; it can be used safely in almost any strength and at any stage of the disease; the injection can be repeated almost as frequently as the fancy of the physician dictates; I have not seen any unpleasant symptoms due to the use of the drug, and I believe it to be one of the most valuable remedies given to the profession in recent years."

59. **Hypertrophy of the Labia Minora.**—Dickinson considers that in extensive hypertrophy of the labia minora its cause may be traced to present or former masturbation.

61.—See abstract in The Journal, xxxviii, p. 1668.

63.—Ibid., July 5, p. 42.

70. **Insomnia.**—The value of hedonal is described by Reisman, who reports a case of its useful employment in the insomnia of tuberculosis. He finds it rapid and reliable in its action, non-irritating to the gastrointestinal, circulatory or genito-urinary systems, and devoid of after-effects. It does not induce habit and allays bronchial sensitiveness.

79.—Reviewed on pages 1000 and 1001 of this issue.

80. **Control of Vaccines, Etc.**—The necessity of proper testing and assurance of the quality of vaccine, serums, etc., is noted by Gehrmann, who advocates the placing of these substances in the pharmacopeia and control of them by a system of either state or national inspection.

89. **Vioform.**—This substance, iodoxychlorchinolin, is known under the trade name of vioform, and was introduced to the profession by Tavel of Berne, whose published findings on the subject are given by Blake. He also reports his own experiments with it on guinea-pigs and rabbits. He finds from the result of these studies that in consequence of its insolubility and stability it is possible that in most cases neither the powder nor its decomposition products are absorbed in appreciable quantities, even after its free use, in localities where escape of the secretions is possible. When absorption does occur in such localities, it is insufficient to produce any symptom of poisoning. When, however, it is introduced into any region where escape of the secretion is impossible, as when employed by injection, it produces an intoxication of considerable severity that may continue for weeks on account of the slow absorption of the drug. This makes it absolutely unsuitable for injection purposes, but for local application as a powder or on gauze in fresh wounds, and in old sinuses so long as they open freely to the surface, it can be freely used with advantage on account of its non-irritating qualities and freedom from toxic action. It has a higher antiseptic potency than that of iodoform, and is entirely free from the offensive and tell-tale odor. Hence Blake considers it for all purposes except that of injection an ideal substitute for iodoform.

92. **Eclampsia.**—Fincke holds that we have as a foundation for the etiology of eclampsia certain fairly definite pathologic lesions, consisting mainly of hemorrhagic and anemic areas, multiple cellular necrosis, and the formation of thrombi and emboli in the various organs, but most marked in the liver, these changes corresponding in general with those caused by the circulation in the blood of some of the toxins. Eclampsia is, therefore, a toxemia due to some undiscovered agent, present under certain unknown conditions in the body at the time, just before, during or shortly after labor. This causal factor may be bacterial, it may be of placental or fetal origin, may arise from faulty metabolism with absorption of resulting poisons, or the abnormal absorption of normal metabolic products. Diseased organs may predispose to but can not cause this condition, while the pathologic findings are the result and not the cause of the clinical syndrome.

93. **Surgical Intubation of the Larynx.**—Royce suggests in cases of operation on the pharynx to avoid the inspiration of blood and the extra dangers and difficulties of the anesthetic from this and other causes, the use of a laryngeal intubation tube fitted with a thin, tightly-fitting tube inside, extending above it, and lengthened by a rubber tube protruding out of the mouth and terminating in a cornucopia lightly filled with cotton, on which the anesthetic is dropped. This allows the operator to work uninterrupted by the anesthetic, and whatever blood may fall into the pharynx is washed away or washed out by irrigation without any disturbance of respiration as the tube with its flexible extension blocks all entrance to the respiratory tract except through the free end under the control of the anesthetist. (See abstract of Kuhn's article, The Journal, October 11, p. 945.)

94. **Tubercular Glands.**—Bristow insists on the importance of thorough operation for tubercular glands, implying by this complete removal of all tuberculous masses within reach.

95. **The Infectiousness of Tuberculosis.**—From study of the literature which is here reviewed, Murray draws the following conclusions: "1. That bovine tuberculosis is easily conveyed from cattle to cattle. In other words, tuberculosis developing in cattle is derived from previous cases of the disease in other cattle, and for all practical purposes other modes of infection may be neglected. 2. That human tuberculosis is transmissible to cattle, but the natural infection of cattle with human bacilli must be of very rare occurrence. 3. That bovine tuberculosis can be transmitted to man either through wounds or through the digestive tract, and, in the case of infants particularly, infection from tuberculous milk probably occurs more frequently than was formerly supposed. 4. That dried tubercular sputum is the main source of infection for man, and the most frequent method of infection is by inhalation. 5. That Koch's conclusions regarding the transmission of bovine tuberculosis to man are not proved, and with our present knowledge we are not justified in relaxing our efforts to stamp out the disease by all possible means."

100. **Smallpox.**—The history of the recent smallpox epidemic is reviewed by Hancock, who notes the symptoms and peculiarities of the attacks and also the treatment. An interesting point in his paper is that he has experimented on four

cases with a subdued red light. In one case the patient died with severe pharyngeal symptoms. The others seemed to be greatly benefited by the treatment and the cosmetic effect was excellent.

101. **Tuberculosis of the Testicle.**—In the conclusion of his paper Abell offers the following deductions: "1. The epididymis is the most frequent starting-point of urogenital tuberculosis. 2. It is usually secondary to some other focus, but may be a primary deposition. 3. The testicle is rarely primarily affected, but as a rule secondarily so from the epididymis. 4. When the epididymis is primarily infected through the blood-supply the process is probably intertubular. 5. When it is secondary to other foci in the urogenital tract, constituting a descending infection, the process is probably intratubular. 6. Foci in other portions of the genital tract, or even distant lesions, do not necessarily contraindicate operation, since clinical evidence proves that, when operated early, foci in the genital tract recover as a rule, and healing of distant lesions following operation has been noted in a sufficient number of instances to invite further investigation. 7. Castration should be limited to those cases in which the process has invaded the testicle proper. 8. Epididymectomy with high resection of the cord after the method of Villeneuve is to be practiced in all other cases."

107. **Epigastric Pain.**—Gaub reports a number of cases illustrating the different causes of pain in the epigastric region, including malignant disease of the pylorus, pyloric obstruction, appendicitis, cholecystitis, etc. He remarks that pain is Nature's method of sounding an alarm, and when occurring in the epigastric region is extremely significant owing to its many possibilities. We should be extremely suspicious of pain occurring in this region and examine carefully. If chronic atrophic gastritis is present and not relieved by approved treatment in three weeks, and there is the least suspicion of cancer, exploratory laparatomy should be done.

108. **Neurasthenia.**—Diller's article is an elaborate one, treating the whole subject of neurasthenia very satisfactorily within its limits. He lays special importance on heredity and over-strain, which combined are causal factors in most cases. As for treatment he suggests rest, but the Weir-Mitchell method is only applicable and feasible for a very few extremely severe cases. The ordinary case must be treated without absolute idleness and with a certain amount of variety. Much depends on the moral influence of the doctor, who must first get his patient in the proper state of mind to co-operate with him and then try to remove the cause. Drug treatment is secondary, though still of value. All the cases should be treated without drugs for at least a part of the time, and sedatives and hypnotics be given as sparingly as possible and never for long periods. General tonics, such as arsenic, iron, quinin, nux vomica, etc., are of usé. The so-called tissue builders of the manufacturing chemists are very delusive, and should never be used, as are also the secret lymphs and so-called "predigested" foods.

117. **Landry's Paralysis.**—Diller reviews the literature of Landry's paralysis, holding that it is a term that can not be dropped and while not a disease in the sense that tetanus or smallpox are diseases, it is at least as much of a disease as certain others, for instance, cerebral paralysis of childhood. For a definition he would suggest the following: "Landry's paralysis is an infection or toxemia produced by various poisons in which the spinal cord (including the bulb) and the peripheral nerves, and especially the lower motor neuron, are attacked, and in which parenchymatous degeneration, hemorrhagic and inflammatory exudates of various kinds and degree are usually found postmortem in this portion of the nervous system. But in a few cases no postmortem changes are discoverable, and in still others changes which are inadequate to explain the symptoms. The spleen and lymph glands are usually enlarged. Bacteria of various kinds have, in a considerable number of cases, been found in the central nervous system; but in the great majority of cases a careful examination has failed to discover any microörganisms. The male sex is affected much more commonly than the female. No age is exempt." He would employ the term as most authorities employ the term apoplexy, including under it conditions like multiple neuritis, or poliomyelitis and some toxemias with negative postmortem findings.

118. **Compression of the Cord.**—Thomas reports a case of upper dorsal tumor of the dura producing complete compression of the cord, with absolute paraplegia, the formation of marked contractures, entire loss of all forms of sensation, and loss of the control of the bladder and rectum, which condition lasted for thirteen years. There was a general smallness of the cord below the point of compression, and the usual systemic degeneration of the pyramidal tracts, also changes in the gray matter in the lumbar enlargement. The conclusions seem to be that central chromatolysis, and nuclear changes of quite a severe grade may occur in the nerve cells of the ventral horn when interruption of conduction from the brain of motor impulses has been cut off for a long time, and in spite of this interruption of conduction from the central neurons, the peripheral nerve cell may retain its normal cytoplastic appearance for many years. The inference is that recovery from the symptoms produced by compression of the cord from without, as from a tumor of the dura, is probably possible as far as preservation of the peripheral neurons is concerned, long after the entire loss of any hope of recovery of the central neurons after removal of the compression.

120. **Pseudo-Epilepsies.**—Browning describes cases from which he summarizes as follows: "1. In the young there occurs a class of cases characterized by recurrent attacks of heterogeneous type, and that may conveniently be called "pseudo-epilepsy." 2. This form of trouble is curable. 3. Such cases, so far as here studied, are due to, or associated with, disturbances in the general tissue metabolism of the body. 4. Some of these are in whole or in part of rachitic origin. 5. Troubles of this kind, when due to rachitis, are amenable to thyroid treatment. 6. True epilepsy is not remedied by thyroid, even in a person who was once rachitic. 7. It is evident that in many cases there is a closer relationship between rachitis and athyreosis than has heretofore been recognized. There must be a relative inadequacy of the thyroid function in these cases associated with rickets. Either, as one of my cases indicates, there is a serious impairment of the activity of the gland, or thyroid feeding serves to burn up harmful material at large in the system."

128. **Houston's Valves.**—The physiology of these structures is explained by Cooke that they are essential to meet the condition induced by the erect posture in the human individual. Their pathology is chiefly in hyperplasia and fibrosis. He specially recommends Pennington's apparatus for operation for the relief of morbid conditions of these structures.

129. **The Physiology of Fever.**—The processes of fever as a disturbance of metabolism are summarized by Bromberg in the following: "1. An increase in the discharge of carbon dioxid due to increased combustion. 2. An increased elimination of heat from the skin by radiation and evaporation, which is 40 per cent. greater than in health. 3. An increase in the elimination of nitrogen and nitrogenous substances. 4. The disappearance of glycogen from the liver, which has been used up to support this increased combustion, and which can not be replaced by the addition of glycogen-forming substance to the diet, and last, an increased consumption of proteids and fats. All of the various conditions just noted have their special significance and require a thorough understanding in order to correctly apply remedies to the alleviation of these changed conditions. I regret that I have not the time to enter more fully into the changes occurring in this faulty metabolism, but to do so would require a paper of greater length than we have just read. Having promised in the commencement of this paper to attempt a definition, I will say that fever is a disorder of tissue metabolism, attended with a rise of internal temperature and changed conditions of the superficial blood vessels."

131. **Otitis Media.**—Richards advocates operation in nearly all cases of chronic suppurative otitis media, and prefers the radical operation according to the method of Zaufall in preference to ossiculectomy. The latter should be chosen only when

the probability is that the suppurative process is limited to the ossicles and their immediate vicinity and cholesteatomatous masses are not present.

132. **Adenoids.**—Kyle describes the constitutional symptoms, especially the mental condition noticed by Harrison, Allen and Cohen, and the febrile attacks in young children which may suggest typhoid or pneumonia, which he thinks are due to these growths.

151.—See ¶36 above.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures and single case reports are omitted unless of exceptional general interest.

British Medical Journal (London), October 4.

1 *The Treatment of Wounds in Naval Actions. Gilbert Kirker.
2 The Duties of Medical Officers in Connection with a Naval Action. W. J. Colborne.
3 *A Discussion on the Prevention of Scurvy. A. Turnbull.
4 Voluntary Aid to the Sick and Wounded in War, with Special Reference to Hospital Orderlies. G. A. Hutton.
5 *The Treatment of Abdominal Wounds. C. Roberts.
6 *A Few Observations Mainly Concerning the Red-Cross Badge. Deputy Inspector-General Porter.
7 Consumption in the Navy. Gerald Sichel.
8 The Position of the Volunteer Regimental Medical Officer. A. E. Larking.
9 The Brigade Medical Unit. P. B. Giles.
10 Reform in the Army Medical Service. J. B. Hamilton.
11 An Ambulance Stretcher. C. Mansfield.
12 Contract Medical Fees in Hydropathic Hotels. A. H. Bampton.
13 A Discussion on Contract Medical Practice. B. W. Housman.
14 Coventry Public Medical Service as a Model for the Regulation of Professional Contract Work. W. R. Rice.
15 The Preliminary General Education of Medical Students. William Gordon.
16 Better Organization of Medical Relief. C. S. Loch.
17 *Hospital Abuse and Its Effect on the General Practitioner. E. H. T. Nash.
18 Reform in Hospital Management. D. E. Anderson.
19 The Organization of a Political Bureau in the British Medical Association. Victor Horsley.
20 Medical Unions: How to Form Them, and How to Maintain Them. Edward Jepson.
21 Hints on Local Medical Organization. J. H. Hunter.
22 Vaccination Acts—1867 to 1898. R. F. Tomlin.

The Lancet (London), October 4.

23 The Power of Observation in Medicine. Thomas T. Whipham.
24 Advance in Surgery During Thirty Years. A. W. Mayo Robson.
25 Knowledge and Wisdom in Medicine. Dyce Duckworth.
26 *The Medical Treatment of Appendicitis. James Burnet.
27 *Myelopathic Albumosuria. T. R. Bradshaw.
28 Multiple Typhoid Abscesses; Secondary Hemorrhage: Ligature of Profunda Femoris; Recovery. Herbert C. Jonas.
29 Notes on Three Cases of Inoperable Cancer of the Breast Treated by Removal of the Ovaries. D'Arcy Power.

Intercolonial Medical Journal of Australasia (Melbourne), August 20.

30 The Causation and Probable Pathology of Fibrinous Bronchitis. J. R. Harris.

Indian Medical Gazette (Calcutta), September.

31 Epidemic Malta Fever in Assam: A Short Preliminary Notice of Certain Recent Discoveries Relating to the True Nature of Kala-azar. Charles A. Bentley.
32 Report on Cerebrospinal Meningitis. E. A. R. Newman.
33 Experiences in a Chinese Hospital. T. H. Foulkes.
34 The Inunction Treatment of Syphilis as Carried Out at Aix-la-Chapelle. C. C. Barry.

The Australasian Medical Gazette (Sydney), August 20.

35 Perityphlitis or Appendicitis. Jos. C. Verco.
36 The Facial Nerve in Relation to the Radical Mastoid Operation. H. Russell Nolan.

Progres Medical (Paris), July to September.

37 (No. 27.) Alimentation de la première enfance (first two years). P. Budin.
38 (No. 29.) Du ptosis d'origine traumatique; signification et valeur pronostique. F. Terrien.
39 La scoliose myxedémateuse. Bourneville.
40 (No. 33.) L'huile hyperiodée en thérapeutique oculaire; Iodipin, Lipiodol. E. Bellencontre.
41 (No. 34.) Du diagnostic de l'hydrocéphalie fetale quand la tête reste dernière (when head remains behind). B. Narich (Smyrna). (Commenced in No. 30.)
42 (No. 36.) Considérations sur le traitement électrique des névralgies. Laquerrière.
43 *Infection of Genital Passages in Women by Chronic, Non-Gonococcic Urethritis in Men. C. Audistère.—De l'infection des voies génitales de la femme par les uréthrites chron. non gon. de l'homme. (Commenced in No. 35.)
44 (No. 38.) Dyspepsie appendiculaire. L. Longuet.

Revue hebd. de Laryngologie (Bordeaux), xxiii.

45 (No. 32.) Ultimate Results of Operations on the Sinuses. M. Lermoyez.—Resultats eloignés des op. faites sur les sinus frontaux et maxillaires.
46 (No. 33.) Névropathies nasales et pseudo-sinusites. P. Jacques.
47 (No. 34.) *Local Electric Treatment of Ménière's Disease. L. Bayer.—Traitement électrique auriculaire du syndrome Ménière.
48 (No. 36.) Medicated Gauze Pack for Suppurating Otitis. H. du Fougeray.—Des gazes à la quinoline naptholée dans le traitement des otites moyennes purulentes.
49 Technique du morcellement des amygdales (tonsils). Vacher and Ruault. (See Nos. 33 and 35.)
50 (No. 37.) *Otitis in Diabetics. L. Bar.—Otite moyenne aigue d'origine diabétique.
51 (No. 38.) Pemphigus des mucosæ. J. Charles.

Semaine Medicale (Paris), xxii, 39, September 24.

52 *Du rôle des principaux facteurs accessoires dans l'étiologie du cancer. R. de Bovis (Rheims).

Deutsche Med. Wochenschrift (Leipsic), September 25.

53 *Ueber die Tuberkuloseinfektion durch den Verdauungskanal (digestive tract). A. Heller.
54 Nochmals die Tast-Perkussion (palpating percussion). W. Ebstein.
55 *Zur Früh-diagnose des Icterus. Hamel.
56 Significance of Fungi for Pathologic Alterations of the Stomach. A. Pettersson.—Zur Frage der Bedeutung der Fadenpilze für die path. Veränderungen des Magens.
57 Technic of Colorimetric Determination of Indican in Urine. J. Bouma.—Ueber eine biswellen vorkommende Abweichung bei der Bestimmung des Harnindicans als Indigoroth mittels Isatinsalzsäure.
58 *Correction of Clubfoot. J. Wieting. Die Redression des Klumpfusses.
59 Die Lepra auf den Marschall- und Karolinen-Inseln. Krulle.
60 *Light Treatment of Male Urethra. H. Strebel.—Lichttherapeutische Neuigkeiten.

Muenchener Med. Wochenschrift, September 23.

61 *Zur Pathogenese des Typhus abdominalis. H. Schottmüller.
62 *Traumatic Laceration of Valves and Aorta. M. B. Schmidt.—Ueber traum. Herzklappen- und Aorten-Zerreissung.
63 *Ueber traumatische Nephritis. H. Curschmann.
64 Zur Kasuistik der traumatischen Pneumonie. O. Schild.
65 Ueber den Bacillus des malignen Oedems. R. Grassberger and A. Schattenfroh.
66 *Der Extensions-Verband (bandage) nach Heusner. H. Wülfing.
67 Ueber die Luxatio tibiæ anterior. Brüning.
68 Simple Method for Quantitative Determination of Albuminoids in Blood. A. Jolles.—Eine einfache Methode zur quant. Bestimmung der Eiweisskörper im Blute für klinische Zwecke.

Prager Med. Wochenschrift, xxvii, July 31 to September 4.

69 (No. 34.) Zur Aetiologie der Diphtherie. L. Zupnik.
70 (No. 36.) *Extrauteringravidität und Hämoglobinurie. Tauber.
71 Zur Therapie der Cholelithiasis. J. Kraus. (Commenced in No. 34.)
72 (No. 38.) Fragmenter menschl. Schädel (human skulls) aus prähistorscher Zeit im Franzensbader Moor. J. Cartellieri.
73 Ueber Dysmenorrhoe und deren Balneotherapie. L. Fellner.
74 Zwei Falle von Aneurysma der Arteria hepatica. A. Sommer.
75 Beitrag zur Wirkungs- und Anwendungsweise der Franzensbader CO_2-Bäder. D. Lindner.
76 Action of Mineral Waters on the Teeth. L. Wachtl.—Einiges über die Wirkung der Franzensbader Eisenquellen auf die Zähne.
77 *Inhalation of Cinnamic Acid in Tuberculosis. A. Bäumel.—Zur Bekämpfung der Tuberculose.
78 Geburtshilfe (obstetrics) und Gynaekologie. Tauber. Critical Review.

Wiener klin. Rundschau, xvi, August and September.

79 (No. 31.) *Significance of Various Sugars for Physiology and Therapeutics. W. N. Clemm.—Ueber die Bedeutung verschiedener Zucker für Phys. und Ther. (Commenced in No. 30.)
80 (No. 32.) *Dubious Sex. F. Neugebauer.—Interessanter Fall von zweifelhaftem Geschlecht.
81 (No. 33.) Marasmus montanus. H. Goldmann.
82 (No. 34.) The Island Climate of Austria. C. Clar.—Oesterreichs Insel-Klima.
83 Adrenalin in der Rhino-Laryngologie. F. Rode. (Commenced in No. 33.)
84 (No. 35.) *Chromoradiometer. G. Holzknecht.—Eine neue einfache Dosirungs-Methode in der Radiotherapie.
85 Ueber die Behandlung accidenteller Wunden. V. Hippel. (Commenced in No. 34.)
86 Tests of Dermo Lamp. Kattenbracker.—Das Eisenlicht der Dermo-Lamp bei der Therapie des Lupus und der übrigen Hautkrankheiten.
87 (No. 37.) Treatment of Dermatoses with Lenigallol Paste. W. N. Clemm.—Ueber die Heilung vernachlässigter und scrophulöser Exantheme und Ekzeme mit mehrtagigen Lenigallolpaste-Umschlägen.
88 Behandlung des Ileus mit hypermaximalen Dosen Atropin. Aronheim.
89 Power of Quinin to Coagulate Albumin. Its great Value for Treatment of Wounds. H. Marx.—Zur Kenntniss der Chininwirkung.
90 (No. 38.) Zur Diagnostik der diphtherischen Larynx-Stenose. I. Steinhardt.
91 (No. 39.) Ueber die Enstehung der Fistula vestibulo-rectalis sub coitu primæ noctis. G. Scheftel.
92 Cholera Infantum und Fliegen (flies). J. Paulsen.
93 Ueber den Einfluss von Gemüthsbewegungen (emotions) auf den Sympathicus. M. Buch. (Commenced in No. 37.)

Janus (Amsterdam), vii, 9, September.

94 Neogalenismus. Constitution und Infektion. Bachmann.
95 Beobachtungen über Lepra. A. Sand.
96 Bökelius' Work on the Plague, 1597. H. Schelenz.—Johann Bökelius und sein Hamburger Pestbuch von 1597.

1. **The Wounded in Naval Actions.**—Kirker discusses the management of the wounded in naval actions and holds that it is not absolutely necessary to neglect them during the active part of the fight. They may be transferred to some portion of the ship by the ammunition hoists without interference with the fighting forces. He remarks on the necessity of having a properly arranged and equipped operating room on modern ships of war, which is provided for in the German and Japanese navies, but the British navy seems not to have appreciated this necessity.

3. **Scurvy.**—From extensive and careful researches in the literature, Turnbull is forced to the conclusion that Osler's second suggested cause of the disease, the presence of some toxic material in the food, is the real exciting cause of scurvy, afloat or ashore, and that lime juice is not an absolute preventive, though a valuable remedy. He adduces as an evidence of this view the experience of Nansen, who gave special attention to the quality of the food supply and escaped scurvy, though unprovided with lime juice. Also the experience of other Arctic explorers, who found fresh meat a sufficient substitute and preventive.

5. **Abdominal Wounds in War.**—Roberts, who has read all the data obtainable, thinks that as a rule the conditions in the field hospital are not suitable for performing laparotomy. The experience with laparotomy in war has been most unfavorable, and he quotes from Senn and others in evidence of this, while on the other hand, many abdominal wounds recover without operation. In the majority of those who die the nature of the injury is such that death might occur whatever would be the treatment, but laparotomy might add to the danger. When occasions arise where the indications for operation are the same as in civil practice, laparotomy should be undertaken for increasing intraperitoneal hemorrhage endangering life, and when there is evidence that perforation of the stomach or bowel probably exists, provided that the patient is seen early enough.

6. **The Red-Cross Badge.**—The misuse of the Red-Cross badge and its possibility is noted by Porter, who sums up that while it should be easily recognizable, it should not be easily counterfeited, or be capable of confusion with any combatant device in use, afloat or ashore. It should be issued under authority only. When issued to individuals they also should be provided with means of proving their identity. Abuses of the use of the badge should entail definite penalties and, as a rule, these should be swift and severe.

17. **Hospital Abuse.**—The remedies for hospital abuse as suggested by Nash are that no persons except urgent or emergency cases should be admitted to hospitals without the recommendation of their own physician or some authority in the case of paupers. The one he would suggest would be the relieving officer. In cases of accident or emergency the hospital authorities should make inquiries and charge what they consider a reasonable amount for the attendance in the case of those able to pay. He would also abolish recommendations entitling to admission by laymen, and the formation of some establishment which should provide for the poor specialized skill at a reduced rate, in the hands of the profession only, to which no person should be sent except on recommendation of his medical attendant.

26. **Appendicitis.**—After giving in detail the general principles of medical treatment and reporting cases, Burnet says he considers himself warranted in drawing the following conclusions: Although when first seen a case of appendicitis may not seem very severe, the patient can with remarkable rapidity develop very grave symptoms. 2. The temperature is not nearly so important as the pulse, and is apt to vary to a greater extent during the progress of the illness than the pulse. 3. The pulse of 120 though necessarily giving rise to anxiety, need not indicate operative interference. 4. We are not justified in giving up a case as hopeless even when the patient seems in immediate danger and operation refused. Some at least do recover. While he believes there is no real medical treatment for appendicitis, yet we are obliged to do our best without operation in many cases, and he insists on the importance of the dietetic management and rest.

27. **Myelopathic Albumosuria.**—This name is one given by Bradshaw to cases with albumose in the urine and some affection of the marrow, which seem to form a group by themselves. He has found about twenty cases in the literature or on personal investigation. As to the cause of the condition nothing is known. It occurs most frequently in the latter half of life and in the masculine sex. The morbid anatomy consists of changes in the skeleton, invasion of certain bones by a soft mass of new growth, the proper osseous tissue undergoing absorption. The ribs, sternum and vertebral bodies seem always to suffer, less frequently the pelvic bone and the skull and only exceptionally the long bones. The growth seems to be closely allied to sarcoma in its structure and clinical progress, but differs in its multiple invasion, showing no tendency to metastases. The urine contains a proteid closely resembling albumin, but differing in its coagulability at a very low temperature, 58 C. It redissolves largely at the boiling point and reappears on cooling. The coagulation that forms on treatment with nitric acid also dissolves on boiling and returns on cooling. It is readily coagulable by hydrochloric acid. The onset of the disease is insidious; the condition of the urine may be the first symptom. Later there is pain and great suffering. The course is from bad to worse, though it is not uniformly so. The exact nature of the proteid in the urine is not certain; the most we can say is that it is closely allied to albumin and probably somewhat less complex in its constitution, and we may conveniently designate it as the Bence-Jones albumose, from the chemist who first described it. He reviews the hypotheses on the subject, but thinks the view that the albumose is actually produced in connection with the new growths is one which best agrees with the facts.

43. **Infection from Non-Gonococcic Urethritis.**—Audistère believes in forbidding marriage in case of a chronic urethritis positively non-gonococcic, if the affection is certainly microbian or subject to relapses from its receptivity to secondary infections. On the other hand, he allows marriage in such cases if the permanent or intermittent urethritis is constantly aseptic and has never been subject to secondary infections, or if there has been no recurrence of infection for six or eight months. In case of marriage during the receptive period, weak sublimate solutions should be used as a prophylactic measure by both husband and wife if the urethritis is microbian, if not, only by the husband. There should be no intercourse during the catamenial period on account of the excessive receptivity of the female at this time. If the wife becomes infected the husband must redouble his prophylactic measures to avoid a perpetual series of reinfections from her.

47. **Local Electric Treatment of Meniere's Disease.**—Bayer describes 7 out of a total of 15 cases, all improved or cured by local application of static electricity. He emphasizes that all catarrhal symptoms, etc., must be abolished before applying the electricity. He aims to flood the tympanum with the electric emanations, holding the end of the electrode about a centimeter from it. No inconvenience of any kind was observed. He varies the form of the application as indicated, preferring the brush for its soothing effect in congestion, and the spark when a stimulating action is desirable. Sclerosis requires a vigorous application of both. None of his patients were hysteric or neurasthenic.

50. **Otitis of Diabetic Origin.**—Bar mentions that the right ear is usually affected and the intense pain is not relieved by perforation of the drum. The secretion is persistent and liable to be hemorrhagic. The mastoid is almost inevitably involved. Edema frequently appears and is a grave sign as it indicates diffuse osteitis of the subjacent bone. Intervention should be prompt, before the edema develops, but should not be undertaken when the urine indicates an excessive proportion of sugar and acidity. These must be reduced before operating, as when the organic fluids are so much altered they favor bacterial proliferation. Affections of the heart, kidney or lungs and cachexia forbid intervention, and general narcosis is peculiarly dangerous in case of diabetes. But bearing all these points in

mind and after preparing the patient with a suitable diet and administration of sodium bicarbonate to alkalinize the blood, intervention should be as prompt as possible. In one of his patients the sugar in the urine fell from 60 to 20 gm. immediately after trephining a mastoid abscess, and this diminution persisted. The patient was a woman of 73 who had eliminated an average of 60 gm. of sugar a day for thirty years.

52. **Accessory Factors in Etiology of Cancer.**—De Bovis' important article on "The Supposed Increase of Cancer" was reviewed in this department October 4, p. 871. He believes that the classification of the populace according to ages and to sex, with the number of urban inhabitants to the square kilometer is the tripod which should serve as the base for all statistical study of the etiology of cancer. He now reviews a number of accessory factors. The influence of race has never been studied from the standpoint of the tripod of age for age, sex and the density of population of cities to the kilometer. He brings to this common ground the statistics that have been published in this country and elsewhere, and deduces the conclusion that the southern races, Italians, negroes and Jews, display a little less receptivity for cancer than the northern races. Among the latter the people of the hill country of Germany, which includes Bavaria, Wurtemburg, Baden, old Switzerland and German Austria, and the Scandinavians seem to be possibly the most receptive, but further research is needed on this point. Geographic or geologic theories do not afford the key to cancer, as he shows by comparison of the statistics, and he points out that the prosperity of a region, and its degree of "medical civilization" are two conditions which have a marked influence on the statistics. Cancer in such a region is brought to the attention of some physician sooner or later, while the profession know nothing of the cases that occur in families and regions too poor or ignorant to seek medical advice. Consequently the statistics show a remarkable rarity of cancer in the latter regions which investigation shows has no foundation. The causes of the frequency of cancer are not in the soil but on top of it. He queries whether it is possible that cold may be a certain factor, but states that no data are obtainable on this subject and neither in regard to professions, etc., brought to the common basis of age, sex and density of population. Experience to date seems to indicate an equal receptivity in rich and poor. The statistics that have been published in regard to cancer in different trades if reduced to the common basis of age for age, show approximately equal proportions. Difference in customs, diet, etc., render it impossible to compare the statistics of one country effectively with another. It is also difficult to estimate the rôle of alcohol in the production of cancer as the statistics give only the mortality from acute alcoholism, which is by no means its entire rôle in pathology. The consumption of alcohol in a country is likewise no criterion: a Norwegian or an Irishman can stand a dose of alcohol which would kill a Neapolitan. The results of the inquiry in Holland incriminated alcohol in 23.4 per cent. of the cases; in Germany, in 14.7 among the men and in .9 per cent. among the women; in Belgium in .4 per cent. Syphilis, tobacco poisoning and certain other factors play a more preponderant rôle according to the figures. The fact that cancer seems about as frequent among the poor as among the well-to-do tends to disprove the theory that meat is a considerable factor in its etiology. Heredity seems the most important. It was established in 18.1 per cent. in the Holland inquiry; in 16.6 per cent. in the Belgian, and in 17 per cent. in the German. These proportions are larger than hitherto assumed; cancer is correctly diagnosed more frequently than it used to be, so that as years pass, even if the annual average of cases does not increase, yet the cases known among the older generations will certainly increase and show still more notably the influence of heredity. It is possible also that if the inquiry were restricted to the well-to-do, the proportion would be much larger even now, as pathologic antecedents are heeded and remembered better than among the poor. If heredity does actually play a part in the propagation of cancer there is reason to suppose that it would increase in frequency with time, and be transmitted to the grandchildren, but in the German inquiry the grandparents were mentioned in only 74 out of 1563 cases in which some relative had succumbed to cancer. Examining the statistics from the standpoint of age for age, sex, and density of urban population, they show that the assumption that carcinoma is occurring younger than formerly is erroneous. The fact is exactly the reverse. The age of maximum frequency is shown to be 70 for men and 75 for women. In regard to "cancer houses," de Bovis observes that a building containing a number of families is more liable to shelter several cases of cancer than a private residence. Also that a district containing elderly people of means is more liable to have a larger proportion of cases of cancer than a district of the homes of working people where children swarm and the old and sick drift to some charitable institution. After an exhaustive study of the statistics bearing on the contagion of cancer, he concludes that marriage does not create a predisposition to it, and that contagion between man and wife is more than doubtful; but, on the other hand, maternity evidently does afford a predisposition to cancer of the uterus, while celibacy in women predisposes to cancer of the breast. There seems to be a sort of predestination to cancer. A person bearing the cancer germ, either born with it or acquiring it, is doomed to succumb sooner or later. If married it may occur as cancer of the uterus, if unmarried, as cancer of the breast or face twenty years later. As to contagion by contact with cancer subjects, the number of physicians, nurses and other attendants who have to tend cancer subjects is so large that it is only a matter of surprise that the cases of supposed contagion are not more numerous than the low percentage of 11 which is given in the Holland inquiry, the highest of all. In none of these cases was the physician or nurse involved. In 12,179 cases of cancer reported by the German inquiry, "from 20 to 30" are mentioned as having possibly been acquired by attendance on a cancer subject. Fully this number are liable to be affected with cancer in the natural proportion. Gallet and Deschamps recently stated that they had not known of a single case of cancer among hospital nurses in Belgium in the last thirty years, and that only one physician has died from cancer at Brussels since 1890. Payne's figures also show that the cancer mortality among British physicians is less than the general average. In Germany only 10 physicians were found in the 4454 male subjects, while physicians average 3 to every 1000 males over 40 years of age in that country. Inoculation is another question, but "instances of it are so rare!" de Bovis exclaims. The immense benefit that can be derived from statistics is the keynote of his article, and he urges the importance of collecting them on a uniform basis for all countries. The present methods of collective inquiries serve only for the personal anamnesis of cancer subjects.

53. **Tuberculous Infection by Way of the Digestive Tract.**—Heller compares the statistics of diphtheria cases at Boston as published by Councilman, Mallory and Pearce, with his own statistics collected at Kiel. He found that the percentage of the cases of tuberculous infection traceable to the digestive tract was 7.4 per cent. in 714 cases of diphtheria and 37.8 per cent. of the cases of tuberculosis among them. The Boston statistics are respectively 5.9 per cent. and 37.1 per cent. in 220 cases of diphtheria. He also describes a new case of extensive tuberculosis of the intestines in a child of 13 free from the disease elsewhere.

55. **Early Diagnosis of Icterus.**—Hamel points out that it is the serum which becomes tinted with the bile pigments and by its presence in the capillaries produces the symptom of icterus. It is, therefore, possible by examination of the serum to determine the presence of these pigments long before there is any appreciable coloring of the skin or conjunctiva, and thus diagnose icterus in its incipient stages.

58. **Correction of Clubfoot.**—Wieting recommends to place the foot on a small board a little longer and wider than the sole, supported by a block at each end. The plaster cast is then applied as usual over the board. The advantages of the board in the treatment of children's feet are obvious.

60. **Phototherapy of the Male Urethra.**—Strebel announces that he has succeeded in inducing a lively reaction in the male urethra to the application of phototherapy. He

thinks that this is the first step toward successful radiotherapy of gonorrhea and other affections of the urethra. The inflammation induced lasted for five hours, and extended for 12 cm. into the urethra. He uses an iron lamp and apparatus of his own invention, and experimented on himself.

61. **Pathogenesis and Early Sign of Typhoid.**—Schottmüller states that in 119 cases of typhoid fever he was able to determine the presence of the bacilli in the blood in 84 per cent., and in the first twenty-four to thirty hours, long before the Widal test was positive. He is convinced that typhoid fever is essentially a bacteriemia and that the localizations in the intestines are by no means inevitable or indispensable. The severity of the case is not altogether dependent on the number of bacteria in the blood, but as a general rule large numbers are associated with a severe clinical course of the disease. He tabulates the details of 50 cases showing this connection.

62. **Traumatic Laceration of the Valves and Aorta.**—Schmidt describes a case which establishes the possibility of traumatic laceration of valves without pre-existing endocarditis. The patient was a man of 85 in this case, who fell from a second-story window with fatal results. The rear flap of the aortic valve was torn completely through with an angular tear, and the front flap of the mitral valve was also lacerated.

63. **Traumatic Nephritis.**—In the case reported by Curschmann the injury to the kidney was followed by shock, vomiting and meteorism and a large palpable tumefaction in the region of the right kidney, which subsided after a few weeks. There was albuminuria and elimination of tube casts for years, but no other signs of a kidney lesion. He regards it as a case of traumatic, circumscribed interstitial nephritis, free from any complications on the part of the heart or circulation. He suggests that many cases of supposed contracted kidney which have been recorded as exceptionally mild, latent and benign in their clinical course, may have had an unsuspected traumatic origin.

66. **Heusner's Extension Bandage.**—Wülfing reports that time is confirming the great benefits of the extension bandages devised by Heusner and in constant use at his and several other clinics, including Hoffa's, Helferich's and others. A white flannel-like cloth is used for the purpose, which is called buckskin or moleskin, and is obtainable in every dry-goods store at a low price. The strips are cut long and wide enough to cover the entire limb. An adhesive fluid is then sprayed on the limb, and the strips of cloth applied smoothly with a bandage outside. The spray fluid is made of 3 gm. castor oil; dammar resin and rosin, each 10 gm.; turpentine, 1 gm.; ether, spirit. and oil of turpentine, each 55 gm. It requires some technical skill to blend and filter. These bandages can remain for weeks or months without changing. It is easily removed by moistening with olive oil or alcohol. The strips can be used again and again after washing. The bandage can be strengthened by a starch bandage outside if necessary. A cylinder of tricot can be used instead of the strips if desired. This extension bandage has done good service also after laparotomies, etc., and for fractures of the ribs. The spray fluid has also proved useful in applying felt corsets and the extension bandage is also applicable to military surgery as a substitute for the more expensive and less effective adhesive plaster.

70. **Ectopic Pregnancy and Hemoglobinuria.**—Tauber describes a clinical picture observed in a woman six weeks after menstruation. The symptoms were those of a sudden and copious internal hemorrhage, and a tumor could be palpated in Douglas' sac. The accumulated blood was rapidly absorbed and an attack of acute hemoglobinuria followed. Michaelis has reported a similar case. They are explainable by the light of the recent researches on the hemolytic serums induced in animals by injections of small amounts of blood from another animal. In these clinical cases the amount of blood was too large, and it was too rapidly absorbed for the production of the anti-autolysin to keep pace with that of the autolysin. The consequence was that the absorbed blood corpuscles were destroyed and the liberated hemoglobin was eliminated through the kidney, causing transient nephritis. In two or three days the normal balance was re-established and order was restored.

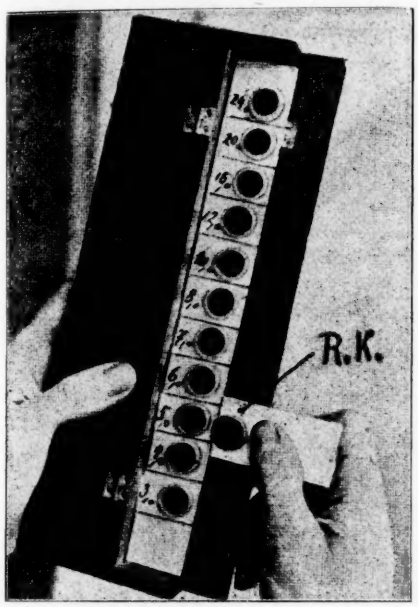
77. **Inhalation of Cinnamic Acid in Tuberculosis.**—Bäumel has found that it is possible to secure the advantages of cinnamic acid in the treatment of tuberculosis without the drawbacks of injecting it. After numerous experiments he found that the solution best adapted for the purpose was a 2 per cent. solution of "hetol" either in water or 50 per cent. alcohol. He uses it in the form of a spray once to three times a day for several minutes to a maximum of five. He found that infiltration of the apices subsided in less than two weeks and that in three months all the physical signs of tuberculosis vanished in many instances without a change of air or occupation. In some cases of hoarseness that had persisted for years, with fever, emaciation and other signs of apical catarrh, the hoarseness vanished completely in less than two weeks. He also found that the diarrhea of consumptives was rapidly and durably conquered by cinnamic acid in .1 gm. tablets. The hetol in these cases comes directly in contact with the lesions in the throat and intestines, and his success in this line encouraged him to try the hetol for external application in a case of lupus, in the form of a 5 per cent. salve of cinnamic acid, after pricking each nodule with a galvanocautery. In the course of two months the lesions had healed and the glands shrunk to a quarter of their former size. He thinks that systematic inhalation of cinnamic acid will abort tuberculosis in the early stages and thus prove an important measure for the extermination of the white plague.

79. **Various Sugars in Therapeutics.**—Clemm has been making an exhaustive study of various sugars and their significance for normal and morbid processes. Among the results attained is the confirmation of the benefits to be derived from sugar in reducing gastric hyperacidity. He gives the curve of acidity in a dog with a Pavloff fistula fed respectively with milk; with 20 per cent. levulose with the milk; or with 30 per cent. dextrose. The amount of gastric juice was 29 c.c. on the milk diet; 13.5 c.c. on the milk and levulose, and only 2.1 c.c. on the milk and dextrose. The dextrose curve resembles that observed when atropin is administered to depress the gastric secretion, and shows that practically the same results can be obtained with a harmless sugar. The new crystallized form for malt extracts obviates the drawbacks of a syrup. "Ossin" is another sugar preparation which he has found very beneficial for certain cases. It is a combination of the oleates of cod liver oil with albumin and sugar. He reports two cases in which a course of treatment with sugar proved remarkably beneficial. In the first a robust man of 37 developed anemic symptoms and nervous dyspepsia with suspicion of cancer. The stomach contents and feces were examined frequently on the latter account, which enabled the progress made under sugar treatment to be systematically verified. He took a course of mineral waters and of arsenic, which cured the diarrhea and relieved the nervous symptoms, but the hyperacidity persisted. The cure was completed by prescribing three tablespoonfuls daily of a 50 per cent. solution of levulose for two weeks, after which dextrose was substituted for five weeks. Clemm urges others to investigate the effects of different sugars and of the sugars formed out of starch by the animal ferments. He thinks that much more important results will be attained in this line than from the study of new drugs.

80. **Dubious Sex.**—Neugebauer has made for years a special study of cases of dubious sex and refers those interested to the compilation of his experiences which has been published recently, profusely illustrated, in M. Hirschfeld's Yearbook for Intermediate Sex (*Jahrbuch für sexuelle Zwischenstufen mit besonderer Berücksichtigung der Homosexualität*, iv, Leipsic). He contends that cases of dubious sex are much more common than is generally accepted, and that physicians must be extremely prudent in their judgment, as error may entail the most serious and far-reaching consequences.

84. **Chromoradiometer.**—Holzknecht is the court expert for *x*-ray damage cases at Vienna. He has invented a means of exact dosage for *x*-ray treatment. The principle is the same

as that used in determining the length of time required to print photographs to have them all of the same tone, by exposing at the same time to the sun a piece of the print paper alongside the negative. He found that chemically pure sodium sulphate and chlorid turn yellow on exposure to the *x*-rays when mixed, and take a deeper color, more of a lavender, if they have previously been melted together. He therefore exposes a small amount of this combination of salts to the action of the *x*-rays alongside the part to be treated with them. Inspection of the tint reached by the chemical is an absolutely reliable criterion of the intensity of the *x*-rays. Comparison of the tint, therefore, with the chromoradiometer shows the exact dosage of the rays. R. K. in the cut signifies the "Reagens-Körper," or testing agent, as it is being compared with



the graduated standard tints on the scale. He affirms that the intensity of the reaction to the light is directly proportional to the amount of light absorbed. Also that there is no such thing as an idiosyncrasy on the part of the skin. The part to be treated is exposed to the rays until the little patch of the chemical exposed beside it has attained the desired tint to correspond with the standard on the scale calculated for the part of the body, age and other particulars.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

THE PRACTICAL MEDICINE SERIES OF YEAR BOOKS, Comprising Ten Volumes of the Year's Progress in Medicine and Surgery, Issued Monthly. Under the General Editorial Charge of Gustavus P. Head, M.D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School. Volume IX. Physiology, Pathology, Bacteriology, Anatomy. Pathology Edited by W. A. Evans, M.S., M.D., Professor of Pathology, College of Physicians and Surgeons, Chicago. Bacteriology Edited by Adolph Gehrman, M.D., Professor of Bacteriology, College of Physicians and Surgeons, Chicago. August, 1902. Cloth. Pp. 212. Price, $1.25. Volume X. Skin and Venereal Diseases, Nervous and Mental Diseases. Edited by W. L. Baum, M.D., and Hugh T. Patrick, M.D. September, 1902. Cloth. Pp. 245. Price, $1.25. Chicago: The Year-Book Publishers.

THE TREATMENT OF TABETIC ATAXIA by Means of Systematic Exercise. An Exposition of the Principles and Practice of Compensatory Movement Treatment. By Dr. H. S. Frenkel, Medical Superintendent of the Sanatorium "Freihof" in Heiden (Switzerland). Only Authorized English Edition, Translated and Edited by L. Freyberger, M.D. (Vienna), M.R.C.P. Lond., M.R.C.S. Eng., Hon. Physician to the St. Pancras and Northern Dispensary. With 132 Illustrations. Cloth. Pp. 185. Price, $3.00. Philadelphia: P. Blakiston's Son & Co. 1902.

A MANUAL OF PRACTICAL ANATOMY. By the Late Professor Alfred W. Hughes, M.B., M.C. Edin., F.R.C.S. Edin., F.R.C.S. Eng., Professor of Anatomy, King's College, London. Edited and Completed by Arthur Keith, M.D. Aberd.: F.R.C.S. Eng., Lecturer on Anatomy, London Hospital Medical College. In Three Parts. Part III. The Head, Neck, and Central Nervous System. Illustrated by 12 Colored Plates and 204 Figures in the Text. Cloth. Pp. 387. Price, $3.00 net. Philadelphia: P. Blakiston's Son & Co. 1902.

CLINICAL METHODS. A Guide to the Practical Study of Medicine. By Robert Hutchison, M.D., M.R.C.P., Assistant Physician to the London Hospital, and Harry Rainy, M.A., F.R.C.P. Ed., F.R.S.E., University Tutor in Clinical Medicine, Royal Infirmary, Edinburgh. With Upwards of 150 Illustrations and 8 Colored Plates. Fifth Edition. Ninth Thousand. Cloth. Pp. 612. Price, $2.50. Chicago: W. T. Keener & Co. 1902.

A COMPEND OF HUMAN PHYSIOLOGY Especially Adapted for the Use of Medical Students. By Albert P. Brubaker, A.M., M.D., Adjunct Professor of Physiology and Hygiene in the Jefferson Medical College. Eleventh Edition, Revised and Enlarged. With Illustrations and a Table of Physiologic Constants. Cloth. Pp. 270. Price, $0.80. Philadelphia: P. Blakiston's Son & Co. 1902.

A TEXT-BOOK OF ANATOMY. By American Authors. Edited by Frederick Henry Gerrish, M.D., Professor of Anatomy in the Medical School of Maine, Bowdoin College. Second Edition, Revised and Enlarged. Illustrated with 1,003 Engravings in Black and Colors. Cloth. Pp. 944. Price, $6.50 net. Philadelphia and New York: Lea Brothers & Co. 1902.

A NURSE'S GUIDE FOR THE OPERATING ROOM. By Nicholas Senn, M.D., Ph.D., LL.D., C.M., Professor of Surgery, Rush Medical College. Published Under the Direction of the Sisters of Charity, St. Joseph's Hospital, Chicago. Cloth. Pp. 127. Price, $1.50 net. Chicago: W. T. Keener & Co. 1902.

A MANUAL OF MEDICAL TREATMENT OR CLINICAL THERAPEUTICS. By I. Burney Yeo, M.D., F.R.C.P., Emeritus Professor of Medicine in King's College, London. Tenth Edition. Fifteenth Thousand. Vols. I and II. Cloth. Pp. 696. Price, $5.00. Chicago: W. T. Keener & Co. 1902.

TRANSACTIONS OF THE ONE HUNDRED AND TWELFTH ANNUAL MEETING OF THE MEDICAL SOCIETY OF DELAWARE, Held at Lewes, June 11, 1901. Paper. Pp. 30. Wilmington, Del.: Sunday Star Print. 1901.

TRANSACTIONS OF THE MEDICAL ASSOCIATION OF THE STATE OF ALABAMA. Organized 1847. Meeting of 1902. Birmingham, April 15-18. Cloth. Pp. 485. Montgomery, Ala.: The Brown Printing Co. 1902.

TRANSACTIONS OF THE IOWA STATE MEDICAL SOCIETY. Volume XX. Fifty-first Annual Session, 1902. Cloth. Pp. 469. Council Bluffs, Iowa: New Nonpareil Co. 1902.

TRANSACTIONS OF THE WEST VIRGINIA STATE MEDICAL ASSOCIATION. Instituted April 10, 1867. Paper. Wheeling: Daily Intelligencer. 1902.

The Public Service.

Army Changes.

Changes of station of medical officers of the U. S. Army, for the week October 3 to 9:

Amador, R. A., contract surgeon, U. S. A. Leave of absence granted in S. O. No. 146, June 27, 1902, Department of the East, is extended one month.

Blanchard, Robt. M., first lieutenant and asst.-surgeon, U. S. A., will proceed, on the expiration of his present leave of absence, from Batavia, Ohio, to Columbus Barracks, Ohio, and report in person to the commanding officer of that post for duty, and by letter to the commanding general of the Department of the Lakes.

Drake, Chas. M., major and surgeon, U. S. Vols. By direction of the President, so much of Paragraph 15, S. O. No. 206, Sept. 2, 1902, Adjutant-General's Office, as directs honorable discharge of Major Charles M. Drake, surgeon, U. S. Vols., to take effect Oct. 10, 1902, is revoked by the Secretary of War. By direction of the President, is honorably discharged to take effect Dec. 31, 1902, his services being no longer required.

Hoff, John Van R. Paragraph 16, S. O. No. 224, Adjutant-General's Office, Sept. 23, 1902, is so amended as to direct Lieut.-Col. John Van R. Hoff, deputy surgeon-general, U. S. A., on the completion of his duty at Fort Bayard, N. M., to proceed to Jefferson Barracks, Mo., and make an inspection of certain matters at that post pertaining to the Medical Department of the Army, under such instructions as he may receive from the surgeon-general of the Army. On completion of this duty he will return to his proper station, this city.

James, H. M., contract surgeon, U. S. A. The leave granted him in Special Orders No. 81, Aug. 5, 1902, Camp George H. Thomas, Ga., is extended two days.

Skinner, George H., captain and asst.-surgeon, U. S. A. The leave of absence granted him in Special Orders No. 141, Aug. 30, 1902, Department of Dakota, is extended one month.

Sears, Edward O., contract surgeon, U. S. A., is relieved from duty at Ft. Niobrara, Neb., and will proceed to his home at Salem, Va., and on arrival will report by letter to the surgeon-general of the Army for annulment of contract.

Sinks, Edward D., captain and asst.-surgeon, U. S. Vols., now in San Francisco, Cal., will proceed to Ft. Bayard, N. M., and report in person to the commanding officer of the U. S. General Hospital at that place for treatment.

Southall, Edward A., captain and asst.-surgeon, U. S. Vols., is, by direction of the Secretary of War, granted leave of absence for one month on surgeon's certificate of disability, with permission to apply for an extension of one month.

Stoney, Randall C., contract surgeon, U. S. A., now at Pinopolis, S. C., is relieved from further duty in the Division of the Philippines and will proceed to Ft. Screvin, Ga., reporting on arrival to the commanding officer of that post for duty and, by letter, to the commanding general of the Department of the East, relieving Captain Chas. F. Kieffer, asst.-surgeon, U. S. A.

Captain Kieffer, on being thus relieved, will proceed to Philadelphia and assume the duties of attending surgeon and examiner of recruits in that city.

Thompson, Frank E., contract surgeon, U. S. A., is relieved from duty at Ft. Niagara, N. Y., and will proceed to his home in Cleveland, Ohio, and on arrival will report to the surgeon-general of the Army for annulment of contract.

Turnbull, Wilfred, first lieutenant and asst.-surgeon, U. S. A., is relieved from further duty in the Division of the Philippines and will proceed to San Francisco, Cal., and on arrival will report by telegraph to the adjutant general for orders.

Torney, George H., major and surgeon, U. S. A., is granted leave of absence for one month, to take effect on being relieved from duty at the Army and Navy General Hospital, Hot Springs, Ark., under Paragraph 13 S. O. No. 231, Oct. 1, 1902, Adjutant-General's Office.

Wood, Halsey L., contract surgeon, U. S. A., will report to the commanding officer, U. S. transport *Warren*, for duty as transport surgeon.

Walker, Wm. H., contract surgeon, U. S. A., is relieved from duty at Camp Thomas, Ga., and will proceed to his home at Henderson, Ky., and on arrival will report to the surgeon-general of the Army for annulment of contract.

Wells, Geo. M., captain and asst.-surgeon, U. S. A., is granted leave of absence for three months, to take effect on arrival of Major Marlborough C. Wyeth, surgeon, U. S. A., at Ft. Wadsworth, N. Y.

Church, First Lieut. James R., asst.-surgeon, U. S. A., now on duty at the U. S. General Hospital, Washington Barracks, D. C., will proceed to West Point, N. Y., and report in person to the superintendent of the U. S. Military Academy for temporary duty, to relieve First Lieut. Albert E. Truby, asst.-surgeon, U. S. A.

Lieutenant Truby, on being thus relieved, will proceed to Washington Barracks, D. C., and report in person to the commanding officer of the U. S. Gen. Hospital at that post for duty.

Gorgas, Major Wm. C., surgeon, U. S. A., having reported to the surgeon-general of the Army in compliance with Paragraph 26, Special Orders No. 207, Sept. 3, 1902, Adjutant-General's Office, is assigned to temporary duty in this city for the purpose of completing his report of sanitary work in Cuba, to date from Oct. 3, 1902.

Navy Changes.

Changes in the Medical Corps of the Navy, for the week ending October 11:

P. A. Surgeon C. P. Bagg, ordered to the Naval Hospital, Mare Island, Cal.

Asst.-Surgeon E. M. Brown, detached from the Naval Hospital, Mare Island, and ordered to the Naval Museum of Hygiene and Medical School, Washington, D. C.

P. A. Surgeon R. S. Blakeman, having been found incapacitated for active service on account of disability incident thereto, is placed on the retired list of the Navy.

Surgeon F. J. B. Cordeiro, detached from the *Constellation*, and ordered to the Naval Training Station, Newport, R. I.

Surgeon M. H. Crawford, detached from the *Chicago*, and ordered home, when his resignation will be accepted, voluntarily tendered.

P. A. Surgeon M. H. Bucher, detached from the *Panther* and ordered to the *Machias*.

P. A. Surgeon W. H. Bell ordered to the *Yankton*.

P. A. Surgeon D. N. Carpenter, detached from the *Illinois* and ordered to the *Chicago*.

Asst.-Surgeon T. M. Lippitt, ordered to the Naval Hospital, New York.

Asst.-Surgeon J. P. Traynor, detached from the Naval Hospital, New York, and ordered to the Naval Museum of Hygiene and Medical School, Washington, D. C.

Asst.-Surgeon A. Stuart, detached from the *Yankton*, and ordered home to wait orders.

Asst.-Surgeon F. M. Bogan, detached from the *Machias*, and ordered to the Naval Hospital, Washington, D. C., Oct. 30.

Asst.-Surgeon F. M. Munson, detached from the Naval Hospital, Washington, D. C., and ordered to the Naval Museum of Hygiene and Medical School, Washington, D. C.

Asst.-Surgeon M. W. Baker, detached from the Naval Hospital, Norfolk, Va., and ordered to the Naval Museum of Hygiene and Medical School, Washington, D. C.

Asst.-Surgeon H. F. Strine, detached from the Naval Hospital, Norfolk, Va., and ordered to the Naval Museum of Hygiene and Medical School, Washington, D. C.

Asst.-Surgeon R. O. Marcour, ordered to the *Franklin*.

Asst.-Surgeon H. E. Odell, ordered to the Naval Hospital, Norfolk, Va.

Asst.-Surgeon R. E. Ledbetter, detached from the *Chicago* and ordered to the *Illinois*.

Drs. B. F. Jenness, H. Shaw, and R. H. Michels, appointed acting assistant-surgeons, with the rank of lieutenant, from October 4.

Dr. John L. Neilson, appointed an asst.-surgeon, October 4.

Marine-Hospital Changes.

Official list of the changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended Oct. 9, 1902:

Surgeon Fairfax Irwin, to proceed to Delaware Breakwater, Delaware Breakwater quarantine, and Reedy Island quarantine, as inspector of unserviceable property..

Surgeon H. R. Carter, detailed as a member of Revenue Cutter Service retiring board convened to meet at Baltimore, October 15.

P. A. Surgeon C. P. Wertenbaker, two days' leave of absence under Paragraph 179 of the regulations.

P. A. Surgeon J. A. Nydegger, detailed as a member of Revenue Cutter Service retiring board convened to meet at Baltimore, October 15.

P. A. Surgeon L. E. Cofer, detailed for special temporary duty in the Bureau for two days, October 3. To proceed to Washington, D. C., for special temporary duty.

Asst.-Surgeon H. B. Parker, to rejoin station at Hygienic Laboratory, Washington, D. C.

Asst.-Surgeon, B. S. Warren, granted six days' extension of leave of absence from October 13.

Asst.-Surgeon A. M. Stimson, to report to Surgeon G. W. Stoner, Immigration Depot, New York, for temporary duty.

A. A. Surgeon C. W. Bailey, granted leave of absence for 15 days from September 26.

A. A. Surgeon S. B. Foster, granted leave of absence for 17 days from October 20.

A. A. Surgeon B. W. Goldsborough, granted leave of absence for 31 days from October 8.

A. A. Surgeon H. B. Hallett, granted leave of absence for 5 days from October 10.

A. A. Surgeon J. P. McCormac, granted leave of absence for 24 days from September 23.

A. A. Surgeon W. E. Rice, granted leave of absence for seven days from October 7.

A. A. Surgeon J. C. Rodman, granted leave of absence for five days.

Senior Pharmacist F. S. Goodman, on being relieved by Junior Pharmacist Frank Siedenburg, to proceed to Norfolk, Va., and report to medical officer in command for duty.

Senior Pharmacist J. V. LaGrange, on being relieved by Senior Pharmacist C. G. Carlton, to proceed to Boston, and report to the medical officer in command for duty and assignment to quarters, relieving Senior Pharmacist H. E. Davis.

Senior Pharmacist G. C. Allen, relieved from duty at Norfolk, Va., and directed to proceed to New Orleans, and report to medical officer in command for duty and assignment to quarters, relieving Junior Pharmacist Frank Siedenburg.

Senior Pharmacist C. G. Carlton, relieved from duty at Chicago, and directed to proceed to Cairo, Ill., and report to medical officer in command for duty and assignment to quarters, relieving Senior Pharmacist J. V. LaGrange.

Senior Pharmacist H. E. Davis, on being relieved by Senior Pharmacist J. V. LaGrange, to proceed to Louisville, Ky., and report to medical officer in command for duty and assignment to quarters, relieving Junior Pharmacist C. W. Stephenson.

Junior Pharmacist C. W. Stephenson, on being relieved by Senior Pharmacist H. E. Davis, to proceed to Chicago, and report to medical officer in command for duty and assignment to quarters.

Junior Pharmacist Frank Siedenburg, on being relieved by Senior Pharmacist G. C. Allen, to proceed to Key West, Fla., and report to medical officer in command for duty and assignment to quarters, relieving Senior Pharmacist F. S. Goodman..

BOARDS CONVENED.

Board convened at the Marine-Hospital office, San Francisco, Oct. 6, 1902, for the physical examination of an engineer of the Revenue Cutter Service. Detail for the Board: P. A. Surgeon W. G. Stimpson, chairman; Asst.-Surgeon W. C. Rucker, recorder.

Board convened at Baltimore, October 6, for the physical examination of an officer of the Revenue Cutter Service. Detail for the Board: Surgeon H. R. Carter, chairman; P. A. Surgeon J. A. Nydegger, recorder.

Board convened at Washington, D. C., October 7, for the physical examination of a candidate for appointment as second assistant engineer, R. C. S. Detail for the Board: Assistant Surgeon-General L. L. Williams, chairman; Assistant Surgeon-General W. J. Pettus, recorder.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended Oct. 11, 1902:

SMALLPOX—UNITED STATES.

Colorado: Denver, Sept. 20-27, 3 cases.
Illinois: Chicago, Sept. 27-Oct. 4, 3 cases.
Kentucky: Covington, Sept. 20-Oct. 4, 11 cases.
Maryland: Baltimore, Sept. 27-Oct. 4, 1 death.
Massachusetts: Sept. 27-Oct. 4, Boston, 10 cases, 3 deaths; Fall River, 2 cases.
Michigan: Detroit, Sept. 27-Oct. 4, 18 cases.
Nebraska: Omaha, Sept. 27-Oct. 4, 1 case.
New Hampshire: Sept. 27-Oct. 4, Manchester, 2 cases; Nashua, 21 cases.
New Jersey: Hudson County, Sept. 28-Oct. 5, 1 case; Newark, Sept. 27-Oct. 4, 7 cases, 2 deaths.
New York: Sept. 27-Oct. 4, 1 case.
Ohio: Ashtabula, Sept. 27-Oct. 4, 1 case; Cleveland, Sept. 27-Oct. 4, 50 cases, 19 deaths; Dayton, Sept. 27-Oct. 4, 1 case; Hamilton, Sept. 27-Oct. 4, 3 cases; Toledo, Sept. 13-27, 15 cases, 3 deaths.
Pennsylvania: Altoona, Sept. 27-Oct. 4, 2 cases; Erie, Sept. 27-Oct. 4, 1 case; Johnstown, Sept. 20-Oct. 4, 33 cases, 4 deaths; McKeesport, Sept. 27-Oct. 4, 5 cases, 1 death; Philadelphia, Sept. 27-Oct. 4, 3 cases; Pittsburg, Sept. 27-Oct. 4, 24 cases, 6 deaths; Reading, Sept. 22-29, 2 cases.
South Carolina: Charleston, Sept. 27-Oct. 4, 2 cases.
Tennessee: Memphis, Sept. 27-Oct. 4, 2 cases.
Wisconsin: Green Bay, Sept. 21-28, 1 case; Milwaukee, Sept. 27-Oct. 4, 8 cases.

SMALLPOX—FOREIGN.

Austria: Prague, Aug. 30-Sept. 20, 5 cases.
Barbados: Sept. 1-15, 266 cases, 11 deaths.
Canada: Amherstburg, Sept. 27-Oct. 4, 1 case.
Ecuador: Guayaquil, Sept. 6-13, 4 deaths.
Great Britain: Sept. 13-20, London, 4 cases, 3 deaths; New Castle-on-Tyne, 2 cases; Sunderland, 1 case.
India: Bombay, Sept. 2-9, 3 deaths; Madras, Aug. 30-Sept. 5, 2 deaths.
Italy: Palermo, Sept. 13-20, 5 cases, 1 death.
Russia: Moscow, Aug. 31-Sept. 6, 1 case; Odessa, Sept. 6-20, 3 cases, 1 death; Warsaw, Sept. 6-30, 5 deaths.
Spain: Barcelona, Sept. 1-15, 2 deaths.
Straits Settlements: Singapore, Aug. 16-23, 3 deaths.
Switzerland: Geneva, Sept. 6-13, 1 case.

YELLOW FEVER.

Colombia: Panama, Sept. 22-29, 4 cases, 2 deaths.
Mexico: Coatzacoalcos, Sept. 20-27, 4 cases; Vera Cruz, Sept. 20-Oct. 4, 25 cases, 14 deaths.

CHOLERA—FOREIGN.

Egypt: Alexandria, Aug. 31-Sept. 20, 612 cases, 469 deaths.
India: Bombay, Sept. 2-9, 1 death; Calcutta, Aug. 31-Sept. 6, 15 cases; Madras, Aug. 30-Sept. 5, 1 death.
Japan: Nagasaki, Aug. 31-Sept. 10, 46 cases, 32 deaths.

PLAGUE—UNITED STATES.

California: San Francisco, Sept. 23, 2 cases, 2 deaths—1 case from Oakland; Sept. 26, 2 cases, 2 deaths.

PLAGUE—FOREIGN.

Egypt: Alexandria, Aug. 31-Sept. 20, 6 cases, 2 deaths.
India: Bombay, Sept. 2-9, 41 deaths; Calcutta, Aug. 31-Sept. 6, 16 deaths; Karachi, Aug. 24-Sept. 10, 10 cases, 8 deaths.
Turkey: Smyrna, Oct. 4, present.